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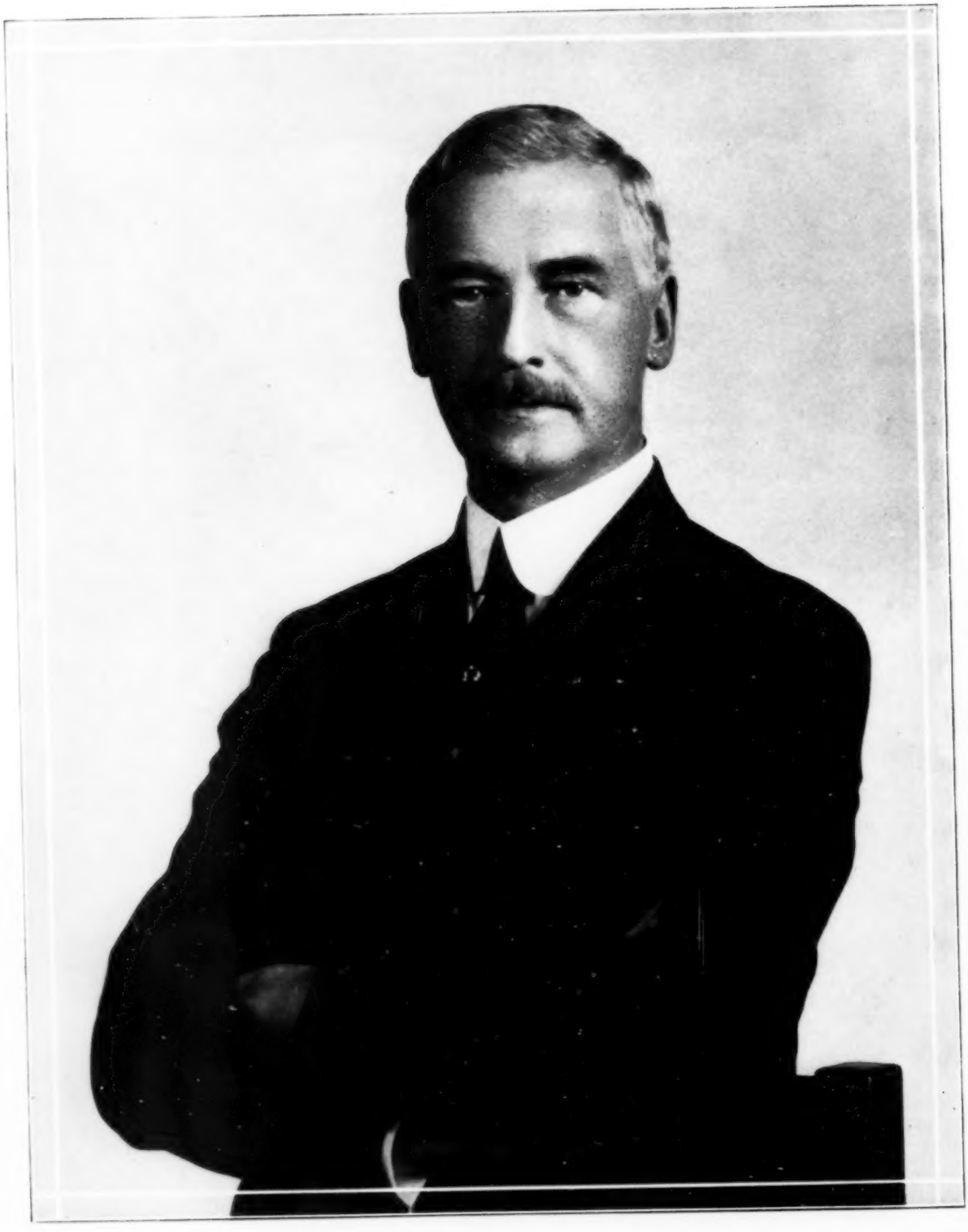

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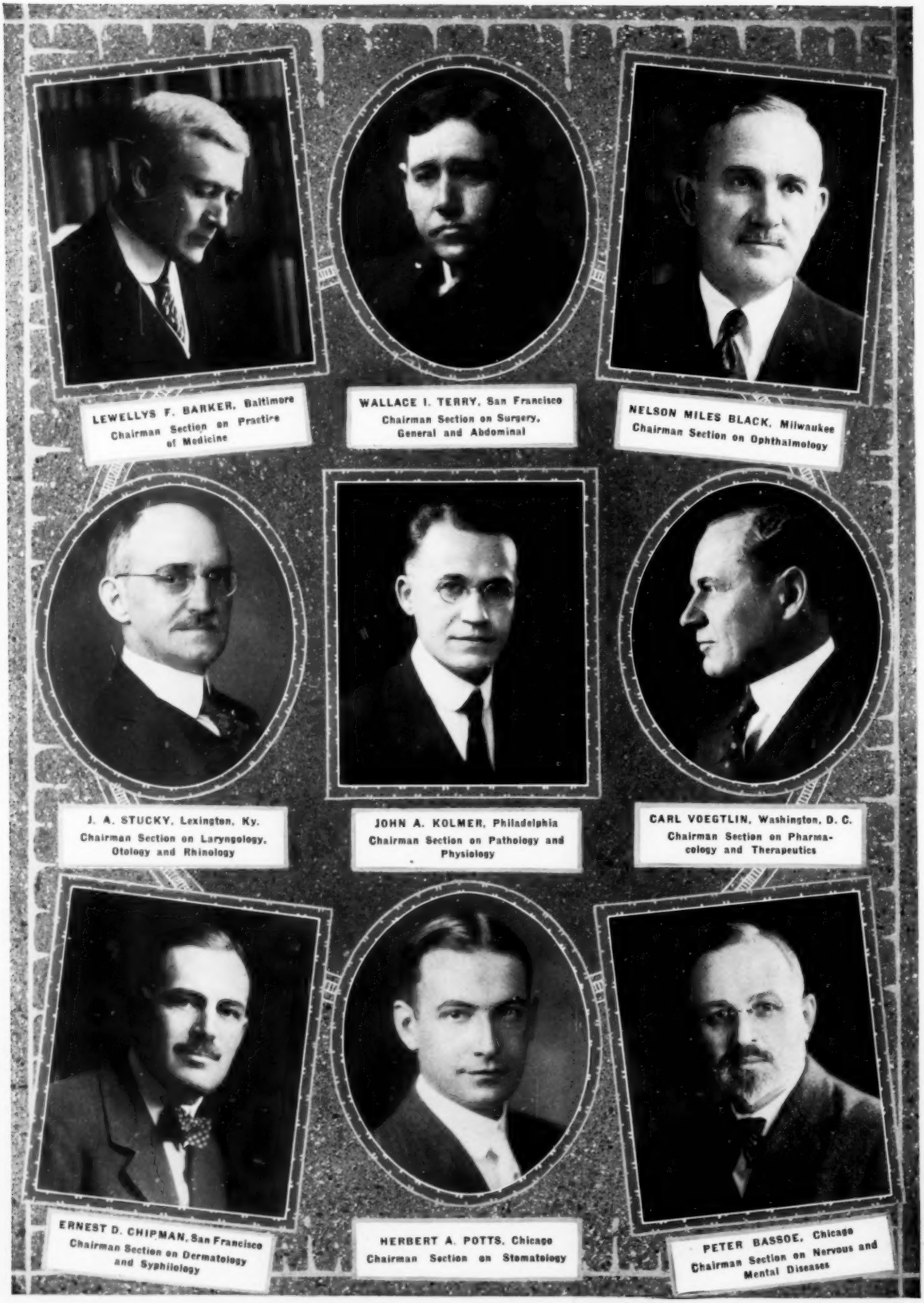
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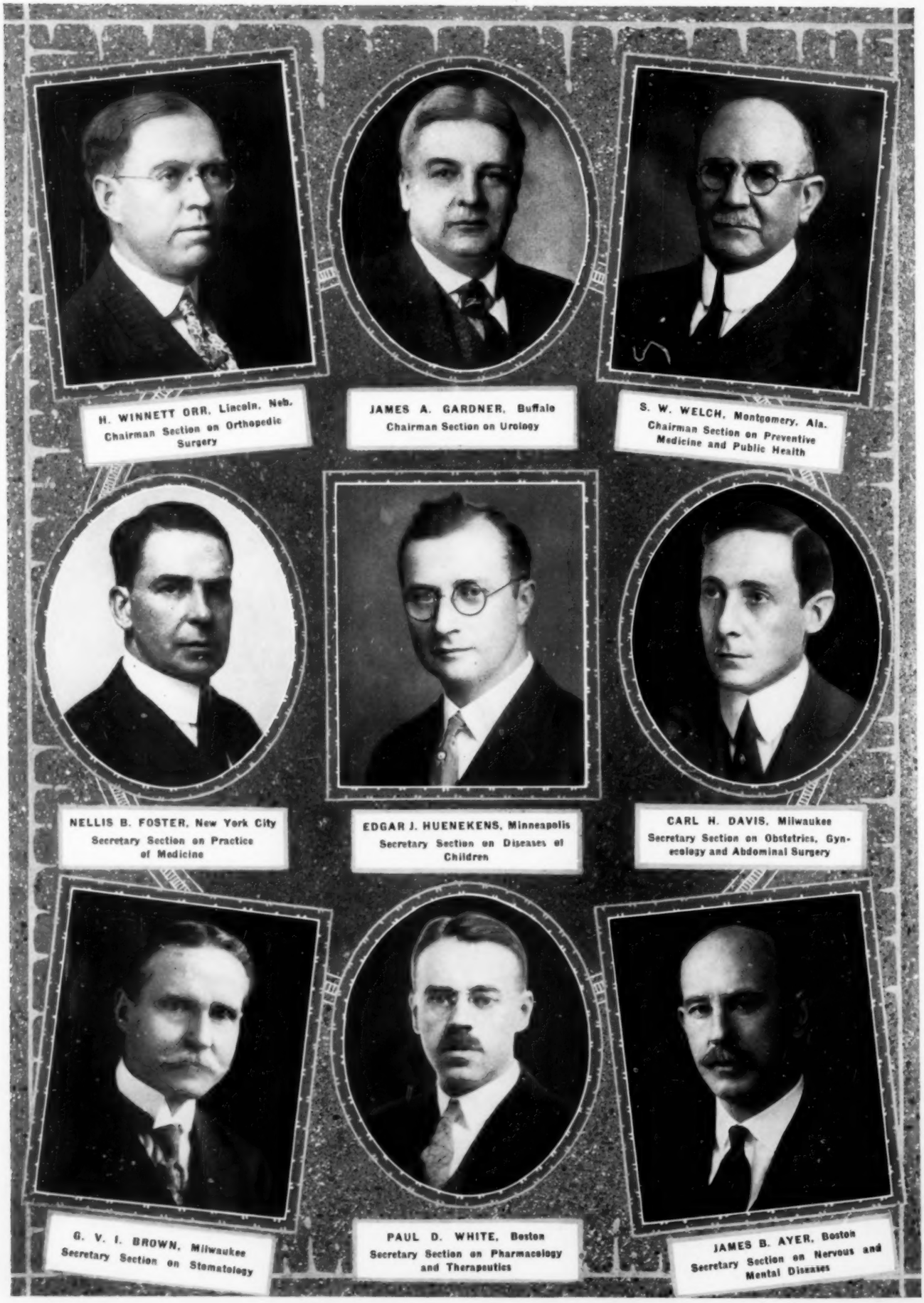
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THE TREND OF THE PRACTICE OF MODERN MEDICINE *

FRANK BILLINGS, M.D.
CHICAGO

I am mindful of the fact that the constituent associations of the congress were organized for scientific purposes only; that discussions of policies or ethics which affect the medical profession as a whole were not to be introduced into the meetings. I crave your indulgence with the hope that I may justify the presentation of a subject which, in my opinion, demands your earnest consideration.

POSTWAR CONDITIONS

It is evident that, since the close of the great war, the state of mind of the people of the whole world has been characterized by reactionary ideas in regard to governmental policies, education, industry, employment and other human activities. Reconstruction on new lines is suggested to overcome alleged past and present social and other evils, with the naive assurance that the proposed reforms will insure universal prosperity and happiness. The public health and welfare, including medical education and medical practice, are embraced in the general plan of reconstruction. It is generally recognized that a large measure of these reactionary ideas are sequences of the war, and that time and the application of good common sense in the adoption of the proper remedies will bring us back to the safe and sane conduct of individual and community life. However, there are some human activities in which, before the war, there had developed recognized productive benefits, but in which, at the same time, the methods of administration and application of these human interests lessened their value to society; and these deleterious conditions were aggravated during the war, and have been since it ended. Among these activities I include the practice of medicine.

MODERN MEDICINE

During the last fifty years the study and evolution of chemistry, physiology, pathology, bacteriology and sanitation, and their application in the prevention, diagnosis and treatment of disease, have changed and broadened medicine to such a degree that its practice is designated an applied science. This does not imply that it is now or that it ever will become an exact science; but by means of continued laboratory and clinical research, the medicine of tomorrow will be characterized by increased learning of greater value to mankind than is the medicine of today. The practice of medicine, however, will always be an art rather than an applied science; for the benefits of the application of the knowledge which the fundamental sciences afford in clinical medicine may be measured by the technical skill and the experience—the art—of the physician.

The study of physiology and biochemistry has brought about a revision of the older anatomic conception of disease. While today we are interested still in the morbid anatomic lesion, its etiology, nature, evolution and its modification by management and treatment—we have quite as much or a greater concern in the coincident functional disorder. In other words, the study and knowledge of pathologic physiology is now recognized as of the greatest moment in modern medicine.

Modern clinical medicine embraces such a vast field of knowledge that it is beyond the power of any individual to acquire the necessary learning, experience and technical skill to practice efficiently in the whole field of medicine. A recognition of this has led to the necessary specialization in medicine, with the evolution of the internist and of other specialists in the narrower fields of medicine and surgery. The wonderful beneficial results of the application of asepsis have made the modern general surgeon a specialist. The evolution of medicine and the promotion of specialism have resulted in the invention of instruments of precision and the elaboration of laboratory methods of physical and functional diagnosis which require special technical skill and experience in their application. In consequence, diagnosis, both physical and functional, has become more precise and at the same time complex. We recognize the enormous benefits which these methods of diagnosis have brought to medicine, and the fact that their employment will bring additional useful knowledge; but we must ever keep in mind that many of these complicated methods of diagnosis are of use chiefly in the investigation of disease rather than in routine practice.

MODERN MEDICAL PRACTICE

Specialization in medicine developed rapidly before the war, and it may be said that the result was generally beneficial to clinical medicine and surgery, and to the public; but an early tendency to overspecialization became evident. During the period in which the United States participated in the war, more than 30,000 civilian practitioners volunteered and accepted commissions as temporary officers in the medical department of the army. This large number of civilian doctors exerted an enormous influence in the organization of the medical corps of the National Army for service in administration and in the field. Specialization in organization resulted to such a superlative

* President's address, read before the Congress of American Physicians and Surgeons, Washington, D. C., May 2, 1922.

degree that eight different administrative divisions, with as many groups of specialists, were formed to care for that part of the anatomy of the soldier designated as the head. Clinical divisions, approximately twenty in number, were organized with separate groups of specialists on duty at headquarters and in the field to care for the designated anatomic portions of the soldier when sick and injured. This organization of the medical department of the army into special groups was maintained throughout the war. The question of jurisdiction over certain anatomic parts of a sick or disabled soldier caused more or less dispute and heartburning among both administrative and field officers. The efficiency of both medical and surgical service was good generally, as evidenced by the relief of suffering, cure and prolongation of life. But in this experience of the application of specialism in military medical service, all factors were such as to promote success under any well organized plan for medical and surgical care. The population cared for consisted of young men mobilized in camps, usually with good diagnostic and hospital facilities available, and the requisite medical and other personnel. Military discipline was a helpful factor, and, until the armistice, the morale as a rule was excellent, and promoted recovery from disease and injury.

The recognition and promotion of specialism in the medical corps of the army during the war greatly stimulated the amplification of specialism in civilian practice. Many physicians and surgeons who were general practitioners when they enlisted were so impressed and pleased with the special service which the army experience afforded that they have continued to attempt the practice in the respective narrow fields since returning to civil life. As a natural consequence, in civil practice they feel responsible, as they did during military service, merely for the particular anatomic part of the patient which is the apparent seat of a morbid process or injury; for specialization in medicine is likely to induce a loss of perspective, and the patient is viewed no longer as a human being but solely as a case. It is asserted that this form of practice is ultrascientific, which may be admitted, and that it is to become the only proper form of efficient medical service. Overspecialization has promoted group practice.

GROUP PRACTICE

For many years, group medical practice has existed in hospitals conducted by medical educational institutions, and in some public hospitals. The members of the group include members of the hospital staff. In these groups there has been no organization which provides for the charge of a single fee for the services rendered the patient by participating clinicians. The patient is referred to the available specialist on the staff and in the group, who gives an opinion and collects his own fee. Similar forms of group practice have always existed among private practitioners with the mutual understanding of individual independence in regard to the financial remuneration for services rendered.

In recent years, overspecialization in medicine has led to the organization of private practitioners into groups, with representatives in the membership of general or internal medicine and surgery and of most or all of the specialties of medicine and surgery, including laboratory specialists, for the purpose of affording greater efficiency in practice. Since the end of the war, the movement toward group practice has expanded rapidly. In some cities several groups have been organized, and in some places active competition to obtain patients exists between the groups, as is evidenced by announcements in the public press indicating the superior advantages offered by the staff, and the available diagnostic and hospital facilities for the care of the sick and injured. The organization of diagnostic and treatment pay group clinics is a more recent development. The suggested advantages of group practice include more efficient diagnostic and therapeutic service; financial economy to the patient, because the one fee charged for the total service rendered is adjusted to meet, without embarrassment, the financial resources of the patient; and professional cooperation in substitution of the prevailing individualism in medical practice.

Now we will all agree, probably, that private and public group practice is a distinct advance in medical service to a community; but it must be evident to all that its application has distinct limitations. To be of real value to the profession and to the public, the group clinic must be conducted on fundamental principles and policies which are characterized by intellectual and professional honesty, and by unselfish and sympathetic understanding of the needs and the welfare of the public, including the members of the medical profession, unconnected with the group, in the community it serves. In other words, the private and public group clinic should be conducted under the same standards of ethics as those recognized and adhered to by the conscientious and honest individual consultant in his relationship to the members of the medical profession and the public. The individual consultant who retains and treats the patients sent to him for diagnosis by a physician, or who attempts to promote his practice by methods tantamount to advertisement in the public press, is unworthy of the confidence of the members of the medical profession and of the public.

I have stated that the value of the application of group practice is limited. I believe that this is true. Let us see. Ostensibly the group is formed for the avowed purpose of providing all patients with an accurate diagnosis and efficient treatment. This is made possible through the services of clinical and laboratory specialists and available equipment to obtain a precise knowledge of the physical and functional condition of the patient and to afford efficient general and special treatment, including hospital care, if that is deemed necessary. First, let us inquire how many patients of an average community require the application of these precise methods of diagnosis to arrive at a true understanding of the real condition, and how many of these patients require hospital care. Based on long experience in consultation and in general hospital and private practice, it is my opinion that a correct anatomic and functional diagnosis can be made in from 80 to 85 per cent. of all the patients of an average community by a qualified, industrious, painstaking general practitioner by the sole application of the trained mind, the special senses, the hands and an always available simple laboratory equipment. Likewise, approximately 80 per cent. of the patients will receive efficient management and treatment as ambulatory or house patients. Of course, it is advantageous that every hospital, with the possible exception of some very small or special institutions, should have the necessary laboratories, equipment and trained technicians to make these precise examinations and to afford adequate treatment of the few patients who really require their use. So, too, must the organi-

zation of private groups of practitioners who will make these ultrascientific methods of practice available for those patients whose morbid conditions demand their use be commended and supported.

The truth is, the splendid knowledge which modern medicine has made available in the diagnosis and treatment of disease is misapplied frequently, with unfortunate derogatory effect on the public and the tendency to demoralize some members of the medical profession. In substantiation of this statement I will cite the establishment of public clinical laboratories. In recent years the number of these institutions has increased far beyond the need. Fundamentally, their services are useful to the members of the medical profession, by furnishing them the needed laboratory examination of a special character. These laboratories also provide for the routine examinations which are simple in character, the greater part of which should be done by the practitioners themselves with the required inexpensive and simple equipment always available. For their own benefit, medical practitioners should carry on personally their own clinical laboratory and physical investigation of the condition of their patients. For the more elaborate laboratory tests, such as blood chemistry, serology, electrocardiography, radiography and some functional tests requiring technical skill and experience, they should make use of the public clinical laboratories. However, the use of these refinements in diagnosis, which are costly, has been stimulated by propaganda distributed by the directors of these public laboratories, through advertisements in medical journals and by circulars sent in the mail to practically all members of the profession. In some instances the attempt is made in the statements published to emphasize the importance and the great need of these methods of refinement in diagnosis in routine practice. Through these and other influences, these refinements in diagnosis, always paid for by the patient either directly or indirectly, are unnecessarily used. Too often the necessary primary and fundamental physical examination is not made, or, if it is, not as thoroughly as it should be. In other words, the patient as a whole and as a human being is not considered. Over and over again, an erroneous diagnosis is made on the basis of the laboratory findings, which would have been avoided and the correct diagnosis established by available simple methods of examination.

This method of practice, and the false impression gained by the public through private and public group medical and surgical service with the usually attendant high cost, are tantamount to commercialism. The public is slowly but surely becoming aware of these conditions in medical practice. Evidence of this point of view of the public is expressed by lay people in cities and in the country. Frequently the best families of the city inquire whom they may secure as a family physician. They ask, "Where can we find the resourceful, painstaking, sympathetic family physician who attended us or our parents' families in former years?" In this connection we must remember that the splendid character and accomplishment of the United States government are due in no small measure to the character-forming factor, the family home. The modern tendency in the cities, especially among the foreign-born population, is to seek tenement habitation, which tends to minimize the value of family life and to disregard the responsibilities of citizenship. This tends to engender the worst forms of socialism, and disregard of individual and community responsibility in the observance of the laws of sanitation, and also to promote disease and poverty. The future safety, prosperity and health of the people and the maintenance of all the benefits which this republic affords demand the preservation of the character-building family home.

As a factor in this necessary principle of community welfare, the family physician and his domiciliary visits are essential. It is recognized that the general practitioner, both in the city and in the country, lacks sufficient hospital facilities in the care of his patients. This lack is evident in some of the rural districts of practically all the states of the Union. Some feasible constructive program should be adopted which will afford justice to the taxpayers and to the members of the medical profession, and which will provide better hospital and diagnostic facilities where they are needed. We must, however, keep in mind the fact that a majority of patients do not require the application of unusual and refined methods of diagnosis, and also that a majority do not require hospital care. The pretentious program of some members of the medical profession and of uninformed members of the public for the irrational amplification of hospital beds for the treatment of practically all the ill and injured, is unnecessary and uneconomical, and promotes the disorganization of society.

MEDICAL EDUCATION

We are justly proud of the satisfactory standards of medical education in the United States. This standard of medical education is evidenced by the generally excellent professional qualification of the graduates of recent years. Never before in the history of the United States have so many members of the medical profession been so well qualified for efficient service to the public. Never before this period have there been so many opportunities for medical service to the public. The graduates of recent years readily find opportunity for laboratory and clinical service to the public, and also opportunity to teach and to carry on investigations in various lines of research, with financial remuneration which is greater than that received by young professional men in former years.

The tendency to specialize in all lines of professional service has had its influence on the character of the education and training of the undergraduate medical student. The majority of the teachers in the medical schools of the country are specialists in practice, and it is natural that each should emphasize in his teaching the importance of a given specialty. In consequence, too much of the time of the student is occupied in the accumulation of unimportant facts relating to special subjects, which deprives him of the necessary time for the needed broad and comprehensive instruction and training in the fundamental principles of pathology, general medicine and surgery, and obstetrics.

The constituent associations of this congress have a membership which includes the foremost medical teachers, research workers and specialists in the preclinical and clinical branches of medicine. The membership stands for the highest ideals of the medical profession, and is qualified and should assume the responsibilities of leadership in the solution of the problems which affect the efficiency of medical practice and the health and welfare of the public. The members of the congress should use their influence to promote the adoption of a fundamental curriculum having as its purpose the proper education of the general practitioner.

The tendency to overspecialization in the practice of medicine has tempted many inadequately trained members of the profession to take up special lines of work. There are too many specialists of this kind in practice today. To correct this condition, it is my opinion that the members of this congress should promote and develop opportunities in various parts of the country for adequate postgraduate training in the several specialties of medicine and surgery.

Finally, permit me to assure you that there is no member of the congress who more fully recognizes and appreciates the value of the facilities which modern medicine affords in the practice of medicine, than I. My endeavor has been to point out what in my opinion are very important and serious errors in modern medical practice, which are injurious to the members of the medical profession and very unjust to the public. I have confidence and faith in the honor and integrity of the medical profession. I believe that its past history, characterized by the highest motives, self-sacrifice and productive service to the public, will enable it voluntarily to correct existing conditions detrimental to medicine and to society. Furthermore, I have tried to impress upon the members of the congress the necessity of preserving that individualism in medicine which implies broad professional qualifications combined with resourcefulness and desire, above every other consideration, to give efficient service in the relief of suffering and the prolongation of life.

TODAY'S PROBLEM IN DIABETES IN LIGHT OF NINE HUNDRED AND THIRTY FATAL CASES*

ELLIOTT P. JOSLIN, M.D.
BOSTON

Whereas the death rate from diabetes in the Massachusetts General Hospital for the ninety years prior to 1914 averaged 28 per cent., since that date it has fallen to 7 per cent. In order to determine whether such a marked change in duration was confined to hospital cases, a study has also been made of the fatal cases of diabetes occurring in the city of Boston. The registrar's office shows that between 1895 and 1913 the average duration of life in the fatal cases of diabetes amounted to 3.3 years; for 1915 it was 4.3 years, and for 1920 it was 5.3 years.

These figures are significant in several ways. Since the average duration of life of diabetic patients as at present treated by the average Boston physician is 5.3 years, it is fair in considering claims of any new method of treatment to demand that it give as good or better results. Consider also what this change in duration from three years to five years means when applied to the million diabetic patients in the United States. It creates an addition of 2,000,000 years of the disease diabetes which the general practitioner must treat. Furthermore, these additional two years of illness for each patient with diabetes require far more treatment and more resourceful treatment than the earlier three years. Indeed, it is with these 2,000,000 years of diabetes which all of us must see and treat that we are most concerned. These years of life have been added largely through the efforts of Dr. Allen; the purpose of Dr. Newburgh's and Dr. Marsh's work has been to make them years of greater activity.

In my own series, the first death from diabetes occurred in July, 1898; the latest, in March, 1922. Between these dates the intervening deaths have been arranged chronologically. This was done the better to facilitate a comparison between the results of treatment of early and of late cases. This is a far safer method of analysis than to record the duration of the disease in numerical case sequence, because many of the patients seen in the early years live today and profit by present day methods. Adopting this course, it appears that by Oct. 20, 1908, the first 100 deaths had occurred, and the average duration of life of these patients was 4.8 years. Since Jan. 1, 1921, the last 100 deaths have been recorded, and the average duration of life was 6.0 years. The first 100 deaths surpassed the early Boston average by 1.7 years, and the last 100 deaths exceeded the late Boston average by only 0.7 year. The general practitioner appears to be improving so rapidly that the specialist is hard pushed to keep ahead.

EFFECT OF TREATMENT BY UNDERNUTRITION ON LIFE EXTENSION

Undernutrition, as introduced by Dr. Allen, began to exert its influence in my practice in June, 1914. Both prior to and after that date a study was made of the metabolism in 113 cases of diabetes at the Nutrition Laboratory. Of these, all but one have been traced to last year. The average duration of life of this group of patients is particularly interesting because they were nearly all severe cases and intensively investigated. Of the thirty-one patients so studied before June, 1914, all but three have died, and the average duration of life was 5.1 years. Of the eighty patients studied between June, 1914, and December, 1917, sixty have died, and the average duration of life was 4.3 years; but as twenty-one patients among the late cases still live, there is little question that the duration of life of the latter series will not only equal but exceed the first. As a matter of fact, the duration of the living patients of the entire Carnegie series in June, 1921, was eleven years. The statistics, however, show that no great change was made in the duration of life of patients with diabetes in the early days of the application of undernutrition. It is important to emphasize this, because a new method in the hands of any but its author is not likely to be well utilized at the start. Its advantages and dangers are not fully appreciated. This consideration applies not only to the introduction of undernutrition, but also to the introduction of some of the principles which Dr. Newburgh has advocated, and it is a pleasure to state that, just as experience with undernutrition has steadily yielded better results in my hands, so has experience with the more liberal use of fat under certain conditions yielded better results.

If one compares the duration of life of all my patients known to have died prior to June, 1914, and that in similar cases since June, 1914, a fairer conception of the results of present methods will be found. Thus, prior to June, 1914, the average duration in 331 fatal cases was 4.8 years, and since June, 1914, the average duration in 597 fatal cases has been 6.0 years. These statistics are general statistics, somewhat akin to the statistics of the city of Boston. I have seen many of these patients only once. Surely, hardly more than a third have been under observation in hospitals.

* Read before the New York Academy of Medicine, April 6, 1922.

They simply represent statistics that are somewhat personal compared with statistics for the city of Boston, which are obviously general.

SELECTED STATISTICS

Statistics based on selected series of cases are plausible, but unsatisfactory. Though a diabetic patient is seen but once, an influence should be exerted to guard that patient from coma or gangrene, and to state all those possible legitimate hopes and prospects by which the patient's courage may be and often is maintained. Possibly it would be just to exclude patients who pass entirely from observation, but I am not yet convinced of this; another physician may be diligently, though unconsciously, bettering my statistics.

One should not claim, as an alibi, ignorance on the part of the patient. One of my most faithful diabetic patients could neither read nor write. Nor should one set up the excuse that the patient is not following the diet. Most likely the diet was faulty, as was my experience with two or three patients who broke treatment and lived longer than those who did as I told them.

TABLE 1.—DURATION OF LIFE IN FATAL CASES OF DIABETES ARRANGED IN DECADES BEFORE AND AFTER JUNE, 1914

Decades	Years	Before June, 1914		After June, 1914	
		No. of Cases	Duration, Years	No. of Cases	Duration, Years
1	0-9	25	1.2	47	2.7
2	10-19	39	2.9	69	3.3
3 and 4	20-39	80	3.9	162	5.3
5 and 6	40-59	137	6.7	216	8.1
From 7 to 9	60-89	50	4.5	103	6.1
1 to 9	0-89	331	4.8	597	6.0

DEATHS ARRANGED BY DECADES OF ONSET

In a study of the duration of life of diabetic patients it is probably wiser to confine one's statistics increasingly to individuals who have developed the disease at an age below 60. Even twenty years ago, a person who contracted diabetes at the age of 60 and was treated carefully but without extremes of diet, though with the constant purpose of keeping the urine sugar free, could look forward to an attainment of his full expectation of life. For this reason the statistics have been grouped by age, and for convenience are here assembled in successive decades because, as is well known, the disease tends to become milder as age advances. In Table 1, the duration of life in fatal cases treated before and after June, 1914, is compared for the first decade, the second decade, the combined third and fourth decades, and the combined fifth and sixth and seventh to ninth decades. The evidence presented by the table is decidedly encouraging, because it shows that the increase in duration of life is not only common to all decades, but, in fact, is greatest both absolutely and pro rata in the decade that is most severe, namely, the first.

TABLE 2.—DECREASE IN DEATHS DURING FIRST YEAR OF THE DISEASE

	Total	Deaths, First Year, per Cent.
Massachusetts General Hospital, 1824-1898	69	68
1898-1914	21	41
E. P. J., 1898-1914	331	18
1914-1922	569	12

DECREASE IN DEATHS DURING THE FIRST YEAR OF DIABETES

The change in treatment in diabetes is registered by the decreasing number of patients who succumb during the year following the onset of the disease. Until 1898 at the Massachusetts General Hospital, 68 per cent. of the patients who died showed a duration of less than one year, and even in the subsequent fifteen years this proportion was as high as 41 per cent. Returning to my own series of 331 fatal cases before June, 1914, 17.5 per cent. succumbed during the first year; but of 569 fatal cases since June, 1914, the percentage has fallen to 12.

TABLE 3.—DIABETIC PATIENTS TREATED IN HOSPITALS FROM APRIL 1, 1919, TO DEC. 31, 1921, ON JAN. 1, 1922

Cases, total	536
Cases, traced	508, or 95 per cent.
Deaths in hospital	11, or 2 per cent.
Deaths in and outside hospital	118, or 23 per cent.

Let us consider separately the general and first year mortality in hospital cases. Of the 536 patients treated in private hospitals between April 1, 1919, and Dec. 31, 1921, it has been possible to trace 95 per cent. Of these, 77 per cent. were known to be alive this January, and 23 per cent. were known to have died. Of the fatal cases in this group, the mortality during the first year of the disease has been 16.2 per cent. Eleven of the 536 patients under hospital treatment died in the hospital. Among these few cases, the mortality for the first year of the disease was 27 per cent. The first year of diabetes is still the danger zone. Two of the three patients who make this 27 per cent. had previously been treated with excessive overfeeding, and especially with overfeeding with fat; the third simply broke diet, came into the hospital one morning, and died the same evening.

TABLE 4.—DURATION OF LIFE IN FATAL CASES OF DIABETES TREATED IN HOSPITALS FROM APRIL 1, 1919, TO JAN. 1, 1922, ARRANGED BY DECADES

Decades	Years	No. of Cases	Duration of Life, Years
1	0- 9	10	1.6
2	10-19	16	2.8
3-4	20-39	43	5.3
5-6	40-59	27	6.2
7-8	60-79	18	3.3
1-8	0-79	114*	4.5

* Four cases not included, as date of death is not known.

EVIDENCE REQUIRED FROM NEW METHODS OF TREATMENT

Today, new methods of treatment of diabetes are desired which will enable diabetic patients to live on the average more than six years, and which will enable those who are under 60 years of age to live for periods in excess of those cited for their respective decades. It is a minimal requirement that the advocates of any new method of treatment give evidence that the duration of the disease will exceed the Boston average of 5.3 years. Secondly, any new method of treatment proposed must demonstrate that no deaths will occur with it during the first year of the disease. Thirdly, it may be added in anticipation of what follows that any method of treatment proposed and any change in methods of treatment of acid intoxication must demon-

strate that the mortality from coma among patients treated in hospitals shall not exceed 1 per cent.

In concluding this statistical part of the paper, it may be added that 68 per cent. of the patients before June, 1914, died of coma, and 55 per cent. of those who have died since that date. Details of causes of death of the entire series are not yet complete.

THE RELATION BETWEEN OBESITY AND DIABETES

To the well-known subject of the relation between obesity and diabetes, Mr. Mead of the Lincoln National Life Insurance Company has recently made a valuable contribution which he permits me to mention. He finds that the frequency of constitutional diseases in general increases as age advances and particularly as obesity advances, but that diabetes is to this extent an exception to the rule: its incidence increases with age only with the fat, while in the thin it remains constant throughout life. This observation, if confirmed, will be of great interest in many ways, particularly in the study of the etiology of diabetes. This shows that diabetic patients, young and old, are akin, and the earlier clinicians were right in sharply differentiating the fat and the thin patient with diabetes.

Never should it be forgotten that diabetic patients whose condition is discovered accidentally on application for insurance live longer than the average. If this is true, how much longer should patients live when the disease is sought out and discovered by design? This is the hope for the future.

PULSE AND BASAL METABOLIC RATES

In the work on diabetes at the Carnegie Laboratory, it has been noted how closely observations on the pulse rate of patients with diabetes have corresponded with their metabolism. The pulse rate is not infallible as a guide; but, if properly taken, it gives a correct picture of the metabolism in the great majority of cases. It should be utilized more. Persons with a slow pulse in general have a low metabolism, and require less food than those with a rapid pulse.

The average metabolism of the diabetic patients studied before June, 1914, was 12 per cent. above standard, and of those studied after June, 1914, 11 per cent. below standard. If one uses the Du Bois instead of the Harris and Benedict standard one simply lowers the scale about 5 per cent. The extremes of metabolism in the 105 cases studied are + 32 and — 40 per cent. Attention has already been directed to the nearly equivalent duration of life in the laboratory cases before and after June, 1914. The lesson is plain: a metabolism whether much above or below the standard is dangerous.

HOPEFUL EXPERIMENTS WITH LEVULOSE

An investigation was also made at the laboratory of the rise in metabolism of diabetic patients after food. This was found to be considerable. No matter how high or how low the metabolism, the diabetic patient responded with an increased production of heat. In this regard he behaved much like the normal. When levulose was given, he apparently reacted to it even more vigorously than the normal. At least our observations, numbering fifty-one, showed that after levulose the metabolism of the diabetic patient will increase on the average 17 per cent., during the first two and three-quarters hours, while the increase in metabolism for normal persons under similar conditions has been shown to be but 11 per cent. It is therefore possible that some way may be found by which levulose and foods which contain levulose can be utilized in the diabetic dietary more than is now the case.

Further investigations on levulose are also indicated, because some of our experiments with luvulose with certain diabetic patients show that the respiratory quotient rises to an unusual degree. Thus, in five experiments a respiratory quotient was obtained over 1.0, and such a quotient would at least suggest the conversion of a portion of the levulose to fat. The individuals, however, who showed these quotients were of a peculiar type. The cases were severe, the undernutrition was extreme, the metabolism was far below normal, and the high nitrogen excretion per kilogram of body weight suggested the prelethal state sometimes observed with fasting animals. The exceptionally high quotients obtained with levulose were found in the same type of patients who also showed unusually high quotients in the fasting state, as observed both at the Russell Sage Laboratory and in Boston. It has always been difficult to account for such high quotients. Various theories have been advanced in explanation, such as (1) an oxidation of beta-oxybutyric acid and its derivatives; (2) the oxidation of the carbohydrate in the protein molecule with the retention of the nitrogenous portion of the molecule, in support of which view we have some meager experiments, and (3) the conversion of carbohydrate into fat, already mentioned.

TEMPORARY MENTAL RETARDATION

Jointly at the Nutrition Laboratory and at the New England Deaconess Hospital, Walter R. Miles and Howard F. Root have recently conducted a series of mental tests with diabetic patients. They allow me to state that by these tests the mental activity of these patients is shown to be from 15 to 20 per cent. below normal. On the other hand, they found the encouraging fact that with treatment the mental capacity definitely improved. In other words, when the stock of a railroad falls it may happen that its president will be suspected of having diabetes. At any rate, boards of directors would do well as a precautionary step before they elect a new president to demand that the candidate be able to secure an insurance policy equivalent to the proposed salary.

PRESERVATION OF BLOOD FOR ESTIMATION OF BLOOD SUGAR

In passing, attention may be called to the great usefulness of a trifling clinical procedure. Frequently one wishes to perform a blood sugar test, but the laboratory is not available. Denis showed that if one adds one drop of 40 per cent. solution of formaldehyd to each 5 c.c. of blood the specimen can be safely preserved, even at office room temperature, for three days for a Folin sugar test. Such a specimen is suitable for a test of the nonprotein nitrogen, but not for the urea nitrogen.

TREATMENT

In any consideration of treatment for diabetes, one must not lose sight of the enormous number of patients with diabetes and the necessity of treatment by simple methods. The general practitioner must treat the million American diabetic patients, and the general practitioner must have simple measures at his disposal. The justification for the test and maintenance diet card I now use is that in practice it has shown a number of general practitioners and patients how to get the urine sugar free without danger, and—what is less

dangerous but more difficult—how to enlarge the diet without the patient instantly showing sugar again; and finally, that of 536 recent cases treated in hospitals, the total deaths in the hospitals have been eleven. In Table 5 these diets are shown.

EXPLANATION OF TEST AND MAINTENANCE DIETS

The test diets are designed for the period during which the patient becomes gradually sugar free. On successive days, advances can be made from Test Diet 1 to Test Diet 5, and if on the fifth day the patient is not sugar free, fasting can be employed for one or more days.

The maintenance diets are for use as soon as the urine of the patient is free from sugar. If this occurs as a result of Test Diet 5, the patient begins with Maintenance Diet C 1 PF 1. The actual articles of food representing the carbohydrate in the diet for the first day are given under the heading of carbohydrate, for convenience described C 1, 2, 3, etc. The articles referred to under protein and fat are under that heading, which for the same reason is described as PF 1, 2, 3, etc. Certain patients with diabetes can proceed steadily day by day from C 1 PF 1 to C 12 PF 12, without showing sugar. If sugar does appear in the urine, one should drop back two days in the carbohydrate group, wait till sugar free, and then advance in the protein and fat group until sufficient calories are obtained. Thus, if sugar shows on C 7 PF 7, the diet prescribed would be that included in C 5 PF 7, and thereafter progression could be made in the PF group until from 25 to 30 calories per kilogram of body weight was furnished the patients.

Occasionally the patient becomes sugar free on Test Diet 2, 3 or 4. It is then unnecessary to begin with Maintenance Diet C 1 PF 1. Instead, one may begin with a maintenance diet which contains a value for carbohydrate similar to that of the test diet on which the patient became sugar free.

If the protein and fat are too high for the individual on a given day, it is easy to advance the carbohydrate and decrease to an earlier day on protein and fat.

The plan is arbitrary, and the majority of cases will demand some modification. It is arranged to enable patient or nurse to see in advance the general plan of treatment.

TABLE 5.—DIABETIC DIETS

Diets With Which to Become Sugar Free	Diet in Grams: Carbohydrate	Protein	Fat	Calories	Test Diets: 5% Vegetable	Orange	Oatmeal	Shredded Wheat	Uneeda	Potato	Bread	Egg	Cream 20% Fat	Bacon	Butter	Meat	Fish	Skimmed Milk	Name of Diet
T. D. 1	189	89	15	1,247	200	300	...	1	...	240	90	...	...	...	...	90	120	480	1
T. D. 2	102	58	0	640	300	300	...	1	...	120	...	...	...	...	...	...	180	300	2
T. D. 3	64	53	0	388	300	300	...	...	...	60	...	...	...	...	...	...	90	240	3
T. D. 4	36	27	0	232	300	200	...	...	...	...	...	...	...	...	...	...	90	120	4
T. D. 5	15	5	0	80	300	50	...	...	...	.....	...	...	...	...	...	...	...	...	5
Maintenance Diets	**Carbohydrate (C)**											**Protein and Fat (PF)**							
C 1 + PF 1	10	11	6	138	300	...	...	...	...	...	...	1	...	...	...	...	...	...	1
C 2 + PF 2	22	13	18	302	300	100	...	...	...	...	...	1	60	...	...	...	...	...	2
C 3 + PF 3	32	24	24	440	600	100	...	...	...	...	...	2	60	...	...	...	...	...	3
C 4 + PF 4	42	29	39	635	600	200	...	...	...	...	...	2	60	30	...	...	...	...	4
C 5 + PF 5	52	32	53	813	600	200	15	...	...	...	...	2	60	30	15	...	...	...	5
C 6 + PF 6	63	43	65	1,009	600	200	30	...	...	...	...	2	90	30	15	30	...	...	6
C 7 + PF 7	73	51	70	1,126	600	300	30	...	...	...	...	2	90	30	15	60	...	...	7
C 8 + PF 8	83	60	88	1,364	600	300	30	...	2	...	...	2	90	30	30	90	...	...	8
C 9 + PF 9	96	63	94	1,482	600	300	30	½	2	...	...	2	120	30	30	90	...	...	9
C 10 + PF 10	107	64	94	1,530	600	300	30	1	2	...	...	2	120	30	30	90	...	...	10
C 11 + PF 11	131	76	99	1,719	600	300	30	1	2	120	...	2	120	30	30	120	...	...	11
C 12 + PF 12	155	80	99	1,831	600	300	30	1	2	240	...	2	120	30	30	120	...	...	12

Food	Weight in Gm.	Approximate Equivalent
Orange	300	One and one-half large size
5 per cent. vegetables	300	Three moderate portions
Skimmed milk	480	One pint, 16 ounces
Fish	120	Two small portions
Potato	240	Two medium-sized potatoes
Meat	90	One moderate portion
Bread	90	Three small slices
Oatmeal, dry weight	30	One large saucerful
Cream	60	Four tablespoonfuls
Bacon	30	Four crisp strips
Butter	30	Three medium portions

Because a routine method of treatment of diabetes has been proposed and just because in it an attempt has been made to utilize many of the ideas of others, far be it from my intention to convey the impression that it is desirable for all to adopt this plan. It is infinitely more useful that each investigator adhere to his peculiar methods; then gradually the best will be found.

Gradual Change of Diet.—Another guiding principle in treatment of the diabetic patient for us all should be to do no harm. It is unfortunately still no rarity to see a patient who, though excreting surgar for months, has preserved fair health and then under treatment is made worse. By no means do I plead innocence. A woman develops diabetes in August, consults a physician in February, the diet is suddenly changed, and death occurs the next week. A man with diabetes of five years' duration, who has poor kidneys, is suddenly fasted and given whisky on a Tuesday; anuria develops on Thursday, and he dies on Sunday. Sudden changes in diet are too dangerous for me to employ, and, I believe, too dangerous for the general practitioner.

Reduction of Fat to Avoid Acid Poisoning.—Undernutrition lessens acid poisoning, presumably by lowering the high metabolism of acidosis which the completed data of the Carnegie series now show definitely to accompany that state. Of the three foodstuffs which can be restricted to bring this about, it is wisest to omit fat. (1) By so doing, less material is available for the formation of acid bodies. (2) It is the most convenient and least annoying way in which to reduce the calories. (3) Fat is more likely to upset the stomach of the patient on the verge of coma than carbohydrate or protein.

Should Alkalis be Employed? So far as I am concerned, No! Of more than 600 cases of diabetes treated in hospitals since April 1, 1919, to April 1, 1922, there have been but sixteen deaths, and of these, but four or, including one doubtful case, five from coma. As none of the patients have received alkalis, and as 99 per cent. have thus escaped coma, no reason is apparent for a change in present methods. It is, however, freely conceded that very likely most of the harmful effects of alkalis in the past have been less due to alkalis than to the accompanying sudden changes of diet on the one hand, and the excessive amount of

alkali employed on the other, both of which measures upset the digestion.

Is Undernutrition Exaggerated? With undernutrition, the lives of my patients with diabetes have been prolonged at least a year. The principle is too good to renounce. At first it was carried too far, and perhaps is still carried too far; but in treating 1,000 diabetic patients it is safer to urge them to eat too little rather than to urge them to eat too much. One should remember that there is a human element with which to deal. One is not practicing medicine in a laboratory. One's influence must be thrown pro or con. There are few diabetic patients starving themselves to death from not eating, but there are many who are in the process of starving themselves to death while eating too much by voiding pounds of sugar in the urine. Many of these escape actual death by starvation only because they die prematurely of coma.

Proportions of Carbohydrate, Protein and Fat.—How shall one apportion the carbohydrate, protein and fat in the diet of a patient with diabetes? My conception of the problem is always to hold in mind the diet which an imaginary healthy twin of the patient would eat. Each weighs 60 kg. (132 pounds). The healthy twin takes carbohydrate, 300 gm.; protein, 75 gm., and fat, 50 gm., making 2,040 calories. If the urine and blood of the patient allow, it is more natural to give a diet approximating that of the twin's, i. e., carbohydrate, 150 gm.; protein, 75 gm., and fat, 120 gm. Radically to change the diet and give carbohydrate, 30 gm., protein, 40 gm., and fat, 170 gm., appears unreasonable because unnecessary. It would appear safer to hold to a diet as near as possible to that of the healthy twin, and to diverge from it only gram for gram, as one fights the disease. I cannot escape from the impression that a diabetic patient whose carbohydrate is once radically lowered and fat radically raised suffers from the process and seldom regains a high carbohydrate tolerance. Leyton has called attention to a similar conviction when protein has been allowed in unlimited extent.

Progress in Chiropody.—The 2,000,000 years of diabetes demand new methods. These patients in later years of life will not die of coma or of inanition, but a large number will die of gangrene and infections. It is eminently worthy of mention that my assistant, Howard F. Foot, recently addressed the Massachusetts Chiropody Association on diabetic gangrene. It is particularly worthy of note that the society was progressive enough to take the initiative in extending the invitation. We should grasp any opportunity to stimulate the interest of chiropodists in diabetes. A short time ago at the hospital there were four diabetic patients with only two legs in all instead of eight.

Concentrated Instruction.—Instruction of the diabetic is essential, and hospital instruction most desirable; but instead of treating one diabetic for four weeks in a hospital, one should consider the advisability of treating two diabetics for two weeks, or four diabetics for one week, or even a larger number for a week end. One should plan for the greatest good to the greatest number. By simple methods in a few days the willing patient can be taught much. A prolonged stay in a hospital is often bad for these patients. They become too introspective and too anxious to experiment constantly with diet.

Instinct.—In our precise prescriptions of food, sight is often lost of the patient's instinct, that most valuable attribute of the human race. This is wrong. One should in some way utilize this feature and in some way allow variations in the quality of food, according to the patient's own desires. Just how this is to be brought about it is difficult to say; but, in general, the patient's instinct should be developed and guided, not scorned, and he should be taught to utilize it; he should never eat needlessly.

IS TREATMENT OF DIABETES WORTH WHILE?

Statistics showing a measurable improvement in the treatment of diabetes have been given, but the real reason why I think it is worth while to continue to treat diabetics despite 900 deaths is this: For about two years I have had under my care a physician's daughter and a workman's son, each with diabetes, and each an only child. Each family lost a former only child with the disease. These parents realize only too well the situation. They seek comfort for their children. Previous experience taught them to care only for comfort, not for life. With the adoption of present day methods of treatment, the living children are so much more comfortable in the eyes of their parents than were the other children now dead that the diet prescribed has been followed with scrupulous care. In adopting this course, not only have they obtained some measure of comfort for their children, which they sought, but with the bright news which comes from Toronto a hope for life, which they hardly dared to anticipate.

THE PROPHYLAXIS OF VENEREAL DISEASE*

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Metchnikoff, after discovering the possibility of communicating syphilis to apes, began to try various agents with which to prevent infection. Most of the well known antiseptics at that time were tested, including various compounds of mercury, and it was finally concluded that a salve of 33⅓ per cent. calomel ointment, when thoroughly rubbed into the site of inoculation, was the most effective agent. After this technic was perfected, he made thirty consecutive inoculations with thirty consecutive successes. He rubbed this ointment thoroughly into the freshly inoculated surfaces, and found that when applied within two hours it was effective in nearly 100 per cent. of instances, and in some cases it was effective when the time of application was extended up to eight hours.

After the completion of a large number of these experiments on apes, a medical student, Maisonneuve, volunteered to have the experiment done on himself. His left arm was scarified, and material from an active chancre was rubbed into the wound. After one hour the calomel ointment was applied and rubbed in thoroughly for five minutes. No infection followed. Two monkeys, which were used as controls, were infected. At the end of these experiments Metchnikoff asserted that this ointment would prevent the infection with syphilis in almost every instance.

Neisser took up the work of Metchnikoff and went to Java, where he could obtain an unlimited supply of animals. He undertook the work on a very large scale,

* Owing to lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the author's reprints.

and although confirming the prophylactic value of mercurial salts, he was led to believe that the calomel should not be mixed with a fatty base, since the resulting substance was not readily applicable to moist tissue. In its place he favored an aqueous solution of mercuric chlorid.

It should be said that his experimentation with calomel ointment was largely confined to the weaker strengths, that is, he used the 10 and 20 per cent. almost all the time, whereas Metchnikoff had definitely concluded that nothing less than 33⅓ per cent. could be relied on. Neisser's conclusion regarding the calomel ointment was that it was very effective and should be made use of by the public, but that it should not be called infallible.

The use of calomel ointment as a prophylactic agent was introduced into the navy in 1908, and proved at once an effective agent against syphilis. Of the various organic silver salts used against gonorrhea, protargol and argyrol proved to be the most effectual. The official prophylactics, then, as used by the navy, consisted of a 33⅓ per cent. calomel ointment to be used externally, and a solution of 2 per cent. protargol to be injected.

In order to simplify the treatment, an attempt was made to create a compound salve which would be germicidal for more than one organism. To accomplish this, phenol (carbolic acid) and camphor in strength of 3 per cent. were added to the calomel ointment. This preparation was used at naval stations, and on ships and seems to have had a very satisfactory effect.

Bachman, after considerable research, concluded that tricresol added to the calomel ointment was superior to phenol. In fact, he thought it superior to any other agent. He tried this on a number of persons who voluntarily exposed themselves to disease, and reported that it was preventive in almost every instance. Colonel Harrison in London has lately introduced thymol as an addition to the calomel ointment. After many laboratory experiments, he concluded that the thymol is distinctly gonococcidal.

After the introduction of prophylaxis into the navy, a few of the organizations made it compulsory, but most of them left it to the discretion of the men; the results have varied greatly. In commands in which the superior officer and medical officer were interested in the subject, and special pains were taken to educate the men concerning it, the treatment has proved a marked success. But in units in which little attention was paid to it, the reverse is true.

One material handicap against its satisfactory use in the navy is the fact that men are given extended shore leaves and all night leaves with no facilities, while away from the ships, for taking these treatments. This makes the time between exposure and treatment so long that the agent loses much of its value. To meet this disadvantage, the navy introduced a prophylactic tube which could be carried by sailors when on leave. This, however, does not always achieve its purpose, owing to difficulties which will be set forth later.

INTRODUCTION INTO THE ARMY

One year after prophylaxis had been employed by the navy, it was introduced into the army. The treatment was not made compulsory, and the men were allowed to use it or not, as they wished. It was not urged in all commands, and it was only in those in charge of medical and commanding officers who were honestly convinced of the wisdom of prophylaxis that it was found definitely beneficial. The general rate of morbidity was not lowered very materially until it was made compulsory by fixing a penalty for those who contracted venereal disease and who had not taken phophylaxis. After this was done there was an immediate and material reduction in the venereal rate of the army in the United States, until it finally fell from 156 per thousand, the year before prophylaxis was used, to 76 per thousand about the fourth year after its introduction.

PROPHYLAXIS IN THE AMERICAN EXPEDITIONARY FORCES

Soon after the American soldiers landed in France, it became apparent that the most rigorous measures would be necessary in order to reduce the enormous number of infections that was occurring. General Pershing began the campaign by issuing General Order No 6. This order penalized every case of venereal disease regardless of whether the patient had taken prophylaxis or not. Unfortunately, this enactment exerted a deterring influence on prophylactic therapy. This fact was brought to the attention of the commander-in-chief, and he agreed to a more stringent order by which failure to take prophylaxis was also punished.

After a close study of conditions in France, it became evident that, in order materially to limit venereal infection, our chief reliance would have to be placed on prophylaxis. At the same time it was, of course, intended to do everything possible to limit contact. To meet these conditions, General Order No. 77 was issued. It placed houses of prostitution in port towns out of bounds, and set a standard for the equipment, location and management of prophylactic stations. It also instructed the medical officer and line officers to use all means in their power to restrict the occurrence of venereal disease.

The chief difficulty in getting these plans carried out was the scarcity of material and lack of interest on the part of some medical officers. They did not give the stations personal attention, nor did they select men of the proper type to have charge of them. In many instances they seemed to regard the whole problem of preventing venereal disease as beneath their dignity. As an inevitable consequence, many of the stations were most insanitary, and such treatment as was attempted was more likely to produce infection than to prevent disease.

It was the duty of the commanding officer to see that all of his men had convenient access to a suitable station. All organizations were, therefore, required to institute stations as soon as possible after they arrived at their billeting area. In addition to the organization station, large central stations were established in cities where many soldiers were billeted, or where many went on leave. These central stations were always more elaborately equipped and better in every way than those of the organizations, and at Bordeaux it was found that the average time between exposure and treatment was thirty-one minutes.

As the reports came into the chief surgeon's office at Tours, it was noted that a large number of the men who had developed venereal disease had failed to take prophylaxis, and that too large a proportion of those who had taken it became infected. In other words, to a certain extent, prophylaxis seemed to have failed. In order to fix the causes for this state of affairs, a

memorandum was issued directing that each case be investigated and that the information thus obtained be sent to the office for compilation and study. This disclosed the fact that many of the stations were poorly equipped, poorly run and inadequately planned. The specific reasons will be dealt with in detail later.

The soldiers were instructed in the proper use of prophylactic treatment, and it was especially made clear to them that it was not injurious in any way. The fact was stressed that it did prevent disease in nearly 100 per cent. of instances when properly administered within a period of two hours. Discussion of the treatment was always serious, and in no case was any levity permitted on the part of the lecturer; nor was anything said that might be construed to mean that the soldiers could have intercourse at will simply because they could be protected against disease. An honest emphasis was laid on measures to prevent contacts, and no excuse or toleration was allowed for exposure, but it was clearly impressed on the man that if, in spite of this advice, he did expose himself he should take the treatment in all cases. In addition to the force of moral suasion, we had a disciplinary requirement that penalized every man suffering from venereal disease specifically for not having taken prophylaxis.

In studying the attitude of the men toward prophylaxis, it was quite evident, during the early months of the war in France, that they had confused in their minds the taking of prophylaxis to escape court-martial with the taking of prophylaxis to prevent disease. In other words, the main object for taking prophylaxis was to escape punishment rather than to escape disease. It is believed that the great emphasis which had been laid on the punishment side was responsible for this. After a time, it was noticed that educational measures were having effect and the point of view of the men was being changed. They were beginning for the first time to believe in prophylaxis for its preventive effect.

PROPHYLAXIS IN CIVIL LIFE

But, granted that prophylaxis may become practically universal in the army, where it can be made compulsory, how about its success in civilian life? At once the objection will be raised that when compulsion is absent the ordinary man will go on his own sweet, careless way. At first sight this may seem very plausible, but let us see how matters stand with the navy.

The answer to this was strikingly shown in the case of the sailors. In the navy, venereal disease was not penalized, nor was the taking of prophylaxis compulsory. The medical officers had to depend on educational measures, and they emphasized and elaborated the prophylaxis as a protective measure. As a matter of fact, they succeeded better than was expected. After the sailors had begun to employ it they were convinced, from their own experience, of its value and continued to use it.

From several investigations made through questionnaires, personal investigations and the like, it was shown that nearly all of the men who exposed themselves in France took prophylaxis at one time or another. Not all of them took it after each exposure, but about 75 per cent. of them did. Elsewhere I have published a table showing the reasons why prophylaxis was omitted in 3,069 cases of venereal disease. In brief, it might be said that carelessness, often emphasized by the effects of alcohol, and not infrequently the absence of a station or other facilities, were responsible.

FAILURE OF PROPHYLAXIS TO PREVENT DISEASE

Approximately 55 per cent. of venereal disease developed after the patient had taken prophylaxis; these cases have been spoken of as failures of the treatment. But investigation showed that most of these were among men who took the treatment after the three hour limit, after remaining with women all night; when they were drunk, and at prophylactic stations which were improperly equipped and inefficiently conducted.

In order to get additional evidence concerning the matter, a careful study was made of 3,042 venereal infections assembled at various camps. These men were carefully interviewed by special medical officers. It must be remembered that the evidence of their having taken prophylaxis was based entirely on their own statements.

This investigation revealed that 60.72 per cent. asserted that they had contracted venereal disease after having taken the prophylactic treatment. A further careful questioning disclosed a number of reasons for this failure. Only the most important will be mentioned. In sixty-two cases the men were definitely intoxicated; in 211 the treatment was incomplete; in 389 it was hurried, that is, sufficient time was not given to the injection or to the application of the calomel ointment; in 685 it was taken more than three hours after the exposure; in 133 the date of onset of the disease did not correspond with the time claimed for exposure.

In this way, we are able to ascertain the reasons for the "failure" in 1,480 cases, and reduce the percentage from 62.72 to 12.06. Nor can we be certain that all of the latter were really instances of true failures, though we have no evidence to the contrary. It is of interest to note that among the 685 patients designated as being over the three-hour limit, 252 had remained all night with the girl, and sixty-two were spoken of as being quite drunk. In addition to those, and included variously in the statistics given, 170 could be spoken of as intoxicated, meaning that it was noticeable from their actions that they had been drinking. It is furthermore worth while to note that of the total number of venereal cases studied, 1,155 men had intercourse, at the time of infection, more than once. The number of these who did or did not take prophylaxis was not calculated.

THE PROPHYLACTIC RATE AS AN INDEX TO THE EXPOSURE RATE

General inquiry, made in a number of ways among the men, proved that almost all who had exposed themselves in France had taken prophylaxis at one time or another, but they had not invariably taken it after each exposure. A questionnaire in one city, answered by 353 men who acknowledged that they had had intercourse, disclosed the fact that only twelve of them had never taken prophylaxis at any time. This would indicate, therefore, that the prophylactic rate, in an organization, corresponds pretty closely to the exposure rate.

At Tours, with 353 men who had exposed themselves, prophylaxis had been taken 1,162 times, or 3.29 times per man.

At St. Nazaire, with 10,140 men, it was used 47,220 times, or 4.65 times per man.

Among the Thirty-Fifth Engineers, at La Rochelle, there was a group of forty-two men, each of whom had taken prophylaxis more than ten times during a

period of four months; four of these had taken it more than twenty times, and one, twenty-seven times. None of them had contracted venereal disease.

THE USE OF THE PROPHYLACTIC PACKAGE

The United States Navy discarded the package after Secretary Daniels declared against it. The United States Army had used it for some time and still permitted it, but the officials had never laid very much stress on it, mainly for the reason that the men would make use of the package instead of going to the stations. There were a few officers in the army who took the same view as Secretary Daniels. These believed that it formed a kind of invitation to the men to have illicit sex relation. The packages were not given free, but were furnished at a nominal cost, and only on application.

The American Army in France at first did not issue tubes at all, but allowed the Red Cross to do so. These were collapsible gelatin tubes containing 33⅓ per cent. calomel ointment, 1 per cent. phenol, and 1 per cent. camphor.

After the armistice, the issuance of these was not forbidden, but it was not heartily favored by the chief surgeon, and consequently they were given out only in a few places, and not in sufficient number to warrant any reliable data concerning their usefulness. During this post armistice period, owing to the large number of men on leave, the chief surgon sanctioned their use for men who were traveling, and who were not able to have station facilities for prophylaxis.

After a trip of inspection to the leave areas, General Pershing sent out a telegram that all organizations should issue these packages to their men. Immediately there was a very general demand for them, but the supply was soon exhausted, so that only a few organizations could be supplied.

It was stated, by some officers, that these tubes proved to be almost worthless in the prevention of disease. It is my opinion that they were not as efficacious as a station, because in many instances no washing facilities and no trained assistant were available, and that the combined ointment was not so good as the other form of treatment. But I wish to state emphatically that there are no collected statistics, nor are there any available in the American Expeditionary Forces, which have any valuable bearing on the efficiency of the tube. All such statements, so far as concerns the American Expeditionary Forces, are simply based on some one's unauthoritative opinion.

The Australian army issued what was called the blue packet. It contained three tubes of 33⅓ per cent. calomel ointment, and one tube of 10 per cent. argyrol. One of these was given to each man as he went on leave.

The British army adopted small collapsible tubes of calomel ointment with 2 per cent. thymol. They were issued on application, and were employed in England to a considerable extent but not much in France.

The French apothecaries put up a number of different kinds of packages. One made by Roberts and Company, in Paris, under the name of "Dreadnought," contained one collapsible tube of calomel ointment 33⅓ per cent. and one tube containing 1 dram (4 c.c.) of 10 per cent. argyrol. The price, 5 francs, was almost prohibitive for the enlisted man; they were, however, used to a considerable extent by the officers. Individual packets were prepared in large numbers by medical officers, who gave them out to line officers. These could hardly be called packets, for they usually consisted of a bottle of protargol, 2 per cent., a syringe, and a small box of calomel ointment.

The prophylactic outfit is not as good as the station; but when it contains all of the materials necessary, with proper directions as to their use, there is no reason why it would not be almost as efficacious. At any rate, even if it is not as good, it is far better than nothing, and should be used in every instance by men who have not access to stations. If it prevents in only 20 per cent. of the cases it is of value.

The proper package should contain one collapsible tube of 33⅓ per cent. calomel ointment, made up with lanolin and lard; one collapsible tube of 10 per cent. argyrol in a solution of equal parts of water and glycerin; one piece of soap for a thorough washing, and one 7½ grain (0.5 gm.) mercuric chlorid tablet, with directions for making the solution and washing after the cleansing with soap and water. In addition to this, concise directions, with illustrations of each step, should be contained in the box.

Some work bearing on the effects of antiseptic agents in the prevention of chancroid was done at Base Hospital No. 9 in Paris, but there were so few experiments that the results did not prove anything. The indications were, however, that a thorough washing with soap and water was the most effective agent against the occurrence of chancroid. In view of the large number of chancroids found in France, and on account of its never having been proved that Ducrey's bacillus can be destroyed by calomel ointment, it was urged that a thorough washing be insisted upon in every instance, and that this be followed by an irrigation of 1: 1,000 mercuric chlorid. As far as could be observed from the figures, this addition to the protargol and calomel ointment was effective for all disease in more than 99 per cent. of cases when taken within the first hour.

DOES THE KNOWLEDGE OF PROPHYLAXIS TEND TO INCREASE SEXUAL EXPOSURES?

As I have stated, up to the present, there is very little statistical evidence to prove whether or not the knowledge of prophylaxis increases or decreases sexual exposure. No figures were recorded in the American Expeditionary Forces on this point, so that all of the statements as to the increase of exposures among the soldiers are based solely upon opinions and probabilities.

Bachman found that, in a given number who took prophylaxis and in a given number who did not take it, the exposure rate was about the same.

It has been claimed by a former secretary of the navy and others that the prophylactic tube is especially harmful, in that it acts as a suggestion to sexual intercourse.

I believe that just the contrary is true. If a man has a prophylactic tube in his pocket, it suggests to him the prevention of disease, and brings to his mind the fact that the girl with whom he may have sex relation is probably infected. This picture of disease undoubtedly detracts from the glamour and romance of the association, and makes him face the sordid and unpleasant spectacle of venereal disease and its terrible consequences.

It is, moreover, believed, and on evidence, that the more prophylaxis is urged and talked about, the more will the average man associate in his mind the danger of disease with sex relation. Whenever these two

things, disease and illicit intercourse, become strongly coupled, the force of temptation is modified.

Another reason for the belief that the propaganda of prophylaxis does not increase exposures is this, that the danger of disease has been largely laid at the door of the professional prostitute. So long, therefore, as the man does not go with this class but cohabits with women who are known to him, he feels that there is no danger of infection, and consequently prophylaxis does not enter into the consideration. In France, among the principal reasons for not having taken treatment was the assertion that the girl was not a public woman and consequently was free of disease.

It should be recognized that since the professional harlot has been legally banned in America, men do not fear the clandestine type, for they are persuaded by the woman that she is not promiscuous and is perfectly safe.

The idea to be firmly implanted in every man's mind is that every woman, except his wife, with whom he may have intercourse is dangerous. He must be made to believe the fact that practically all women addicted to illicit sex relation in any degree are promiscuous. The unmarried woman who has sex relation with only one man is very rare.

After careful consideration, I do not believe that the advocacy of public prophylaxis will, in any way, increase immorality. On the contrary, I firmly hold that it will decrease it. The prevention of disease must inevitably promote the general well-being of society, and in no other way can wholesome thinking and collective morality be so powerfully stimulated as by constant consideration of this fact.

RESULTS OF PROPHYLAXIS

In 126,000 treatments given in Base Sections No. 2, 1.2 per cent. were failures. In 27,000 treatments in Base Section No. 1, 0.8 per cent were failures. In 9,642 treatments in the Le Mans area, nineteen cases of venereal disease were discovered. In 11,400 treatments in the La Rochelle district there were only nine cases of disease, while in 6,524 treatments at a station in Brest, only five infections developed. I made a careful study of the records of the last named station, and can vouch for them as correct. One base hospital

TABLE 1.—RESULT OF PROPHYLAXIS AT NORFOLK

Time After Exposure	Venereal Prophylaxis	Venereal Disease
1 hour	674	—
2 hours	657	4
3 hours	298	2
4 hours	223	1
5 hours	156	3
6 hours	285	4
7 hours	247	5
8 hours	359	16
9 hours	272	9
10 hours	190	10
11 hours	195	13

reported a series of 800 treatments without an infection. In Base Hospital No. 9, 269 treatments were given over a period of nine months with only two cases developing. One officer sent in a report comprising a study of 10,000 cases in which prophylaxis had been taken within the first hour; the failures were 0.08 per cent.

A study of the combined reports in the whole American Expeditionary Forces showed that, in a record of 242,000 prophylactic treatments, only 1.3 per cent. were failures.

The results among the negro troops are even more convincing than these figures. It was found impossible to induce the negroes to appear voluntarily for prophylactic treatment after exposure. The number of exposures was enormously high, and those who took prophylaxis were very few. A study of one organization showed that 93 per cent. had exposed themselves in two months. These troops had access, for the most part, to the lower grade prostitute, among whom it is known that disease is very widespread, registering almost 100 per cent. The annual rate among the colored soldiers at St. Nazaire had reached the alarming extent of 625 a thousand.

TABLE 2.—RESULTS OF PROPHYLAXIS AT THE ASIATIC STATION

Hours Subsequent to Exposure	Number of Treatments	Number Followed by: Gonorrhea	Chancroid	Syphilis	Totals	Percentage of Failures
1	3,453	7	20	4	31	0.897
2	4,400	27	43	3	73	1.659
3	3,104	26	31	3	60	1.932
4	2,034	19	20	2	41	2.015
5	1,216	28	16	3	47	3.865
6	1,179	21	20	1	42	3.562
7	742	13	16	1	30	4.043
8	802	23	18	0	41	4.756
9	534	17	11	1	29	5.430
10	645	10	12	1	23	3.565
More than 10	1,450	30	27	4	61	4.149
Total	19,639	221	234	23	478	2.433

It was decided, after a conference, that we would require all of these men, after returning from liberty, to take prophylaxis. This meant the establishing of a system of compulsory prophylaxis, regardless of exposure.

The rate immediately dropped and within three months it went down to 110. As compulsory prophylaxis was more and more rigidly practiced, and a better system of guards instituted around camps and working places, the rate continued to drop, finally, reaching 35 per thousand per year.

In one organization of 1,800 colored men in St. Nazaire, the new cases per month prior to compulsory prophylaxis had been from 50 to 80; after its establishment, the number dropped materially, varying between 2 and 5. At Brest the rate was reduced from 480, before compulsory prophylaxis, to 48 after compulsory prophylaxis. At Bordeaux, it dropped for the same reason from 325 to 50, and for several weeks it was below 30.

This fine achievement was due almost entirely to the universal use of prophylaxis, since other regulations were just about the same as they had always been. Fifty per cent. of the men were allowed leave from 5:30 to 9:30 p. m., and no new restrictions were imposed.

RESULT OF PROPHYLAXIS IN THE UNITED STATES

The work of Riggs in the United States Navy stands out as among the best, if not the very best, and it was based upon the most careful observation.

His first report from the United States Naval Station at Norfolk, Va., gave the figures reproduced in Table 1. Alcohol was present as a factor in 37.5 per cent. of the cases. Only one patient out of 365 claimed accidental infection of syphilis.

Later Riggs gave an analysis of 19,639 prophylactic treatments, given at the Asiatic Station. These showed 653 venereal infections. It will be seen, from Table 2, that out of 3,453 treatments there were thirty cases of disease, or 0.897 per cent. of failures.

It appears that the proportion of chancroid in the list is very high. According to our observations in France, we found, as already mentioned, that a thorough washing with soap and water followed by a mercuric chlorid irrigation was necessary to prevent chancroid. The absence of this preventive measure may furnish a partial explanation of the question presented by Riggs' statistics.

Surgeon Henry of the United States Navy reported 529 prophylactic treatments with four cases of gonorrhea following; two of these men had received treatment more than twelve hours after exposure, and another did not have an official record of having taken it at all, so that we have only one authentic failure in the 529 exposures. He states further that in a crew of 200 men, no venereal cases were under treatment, a condition that was previously unknown.

W. F. Davidson took special care with his prophylactic station, and reported 127 exposures with one failure. This case was questionable because the gonorrhea did not develop until one month after exposure. In a later series of 317 cases there was not a single failure.

Bachman reports 504 men who had been exposed 1,301 times and who used prophylaxis after each exposure. Of these men, two reported with gonorrhea. There was, in addition, 302 men who had had 763 unprotected contacts. Among these was one case of syphilis, twenty-six cases of gonorrhea and twelve cases of chancroid. The percentage of infection of the first group was 0.25 per cent. and that of the second group, 12.58 per cent.

The number of individual contacts among the 504 men who took prophylaxis was 2.53, and the number in the 302 who took prophylaxis was 2.52 times, so that the number of exposures in each series was about the same.

This also indicates that the feeling of safety of prophylaxis did not encourage sex contact.

Holcomb seems to be very adverse to the use of prophylaxis, and does not wish to view it in a favorable light; but in spite of this he admits that in 1,385 exposures, which were treated within eight hours, only nineteen developed disease, or a percentage of 1.37.

In connection with the report of Holcomb, it must be remembered that the value of prophylaxis must be judged from individual ships, where both the officers and men take an interest in the prevention of disease. On many ships the prophylactic station is a part of the latrine and is just about as uninviting. The men are given all night leave and many week-end leaves, and very little is done to safeguard them from infection by the adoption of either disciplinary or educational measures covering prophylaxis.

Among 1,561 prophylactic treatments given in a camp in the United States, only seven men were infected with venereal disease, and all of these took the treatment twenty-four hours after exposure.

Wolbarst reports an instance of two men who had repeated intercourse with the same girl during one night. She was suffering from active syphilis, and had local lesions on the labia majora and around the anus. One of these men applied to Wolbarst, who used 33⅓ per cent. calomel ointment for five minutes over the places which seemed likely to be infected, and instructed the man to apply the same ointment every four hours. The man who was so treated remained free, but the other one, who had no treatment, developed syphilis.

A hospital steward in the navy became interested in the efficiency of the naval prophylactic tube, and voluntarily exposed himself with a woman who had a chancre on the labium. He used prophylaxis immediately, and escaped infection. Another man who did not use prophylaxis had been infected from the same woman. Three other men had had relations with this woman, and two of them used prophylaxis nine hours later, while the other used nothing. All three were infected. Still another man who had two contacts with her within the space of an hour used the treatment immediately after the last contact and escaped infection.

CONCLUSIONS

The observations in the American Expeditionary Forces, together with the studies which have been made in America, have proved beyond a doubt that prophylaxis is of the utmost value, and the fact has been established beyond doubt that when taken within one hour it is almost 100 per cent. effective.

The fundamental principle in preventing disease is to prevent exposure to that disease; consequently, all measures which would militate against illicit sex relations are to be used. But it is known that this relation can be limited and controlled up to a certain point, after which no prohibitive measures of any kind, or forces of moral suasion, will be effective. It is for this group that prophylaxis should be insisted on.

With this aid, covering 30 or 40 per cent. which cannot otherwise be reached, we are able to talk in terms of the abolition of venereal disease. It is no utopian, unpractical dream to look forward to the time when venereal disease will be rarely seen.

THE DIAGNOSIS OF BRAIN TUMORS BY THE BÁRÁNY TESTS

WITH REPORTS OF CASES PROVED BY OPERATION OR NECROPSY *

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This paper calls attention to and emphasizes the value of a complete ear examination by the so-called Bárány tests as an aid to the neurologist and brain surgeon. Such an examination, when carried out by a skilled otologist, will frequently clear up many of the difficult and perplexing cases, as will be illustrated by the case histories reported. The details of these case reports are unfortunately not complete, since I was merely a consultant and was requested to render an opinion based on my own findings, irrespective of the general history of the case or of the recorded observations by other specialists.

Even at the risk of repetition, it might be mentioned that in the so-called Bárány tests, we examine an additional "special sense"—a sense that cannot be tested and analyzed by the usual methods of neurologic examination. The localizing value of an additional special sense needs simply be mentioned to be fully appreciated by neurologists. Its function is that of sensing body motion. The "end-organ" is in the inner ear and is excited by moving lymph impinging against

* Read before the Neurological Society of Philadelphia, March 24, 1922.

* This article is abbreviated in THE JOURNAL by the omission of several case reports. The complete article appears in the author's reprints.

ciliated hair cells. It is connected with the central nervous system by a most elaborate and extensive network of nerve pathways. These pathways have not all been definitely traced anatomically as yet; however, a sufficient number have been demonstrated histologically and clinically, and these furnish a satisfactory basis for the study and examination of cases. The histologic contributions of Cajal, Bárány, Sachs and others are so definite that they need not be commented on. The clinical observations, however, require more careful discussion. It is known that, when the endolymph in the semicircular canals is set in motion, it produces a certain eye movement. There must be, therefore, a nerve pathway between the semicircular canal stimulated and the eye muscles producing this movement. Similarly, movement of the endolymph produces in the individual a conscious and definite impression of body rotation in a certain direction. This, too, can occur only as a result of impulses traveling along nerve pathways between the ear and the cerebral cortex. These two phenomena—an eye movement and subjective sensation of body rotation, or vertigo—have been demonstrated to be invariably present in a recorded series of examinations totaling almost 100,000. When a lesion occurs along these tracts, stimulation of the endolymph fails to produce these responses. A lesion in one location may abolish one response only, while a lesion in other locations may abolish both responses; still others may cause only a partial impairment or even an exaggeration of the same responses. Examinations of a large number of brain cases over a period of many years have shown that lesions in certain locations produce a definite group of phenomena on stimulation, more definite for some lesions and less definite for others. Thus, tumors located in the cerebellopontile angle give the most constant complex of findings, so constant that in a number of cases in which the neurologic data were most confusing and even indicative of lesions elsewhere, these tests were the only means of localizing the lesions accurately.

The typical picture, in brief, is this: There is total deafness with no responses whatsoever from the horizontal and vertical semicircular canals on the affected side. On the opposite side the hearing is good; the vertical semicircular canals produce no responses at all, while the horizontal canal produces good nystagmus, vertigo and past-pointing. The nonresponsive and deaf ear on the affected side is accounted for by the neoplasm destroying the eighth nerve, while the absence of responses from the vertical semicircular canals of the opposite side is probably the result of pressure. There are many variations from this typical picture, but every case must exhibit: (1) evidence of a peripheral lesion, and (2) evidence of a central lesion, especially pressure against the brain-stem. Such a combination can be produced only by a lesion in the cerebellopontile angle which is, of course, a central lesion; but by destroying the eighth nerve on that side it gives the picture of a peripheral involvement. In many cases in which the neurologic findings are most conflicting, the Bárány findings are most conclusive; in fact, we can say without hesitation that for tumors in the cerebellopontile angle, these tests are practically absolute. Since a large percentage of all brain tumors are located in the cerebellopontile angle, a method that is so helpful in either locating these tumors or excluding them from that region at once becomes of the utmost importance. What is more, we are convinced that these tests would demonstrate the presence of such a lesion in that region months or years before the appearance of the usual definite and discernible clinical data.

TUMORS OF THE CEREBELLOPONTILE ANGLE

The following cases will illustrate these facts:

CASE 1.—Mrs. B. S., admitted to hospital, June 17, 1921, with loss of vision and disturbance of equilibration, two and a half years before had experienced a peculiar crawling sensation in her left ear, which was attributed to a cold. A couple of months later the patient became pregnant for the second time, and during pregnancy the ear condition became worse. This pregnancy was marked by continuous nausea and vomiting, whereas the first pregnancy had been absolutely normal.

As the patient advanced toward term, the ear became worse, and after delivery was much aggravated. In September, 1919, she began to have transitory difficulty in maintaining her equilibrium. This was in the form of a tendency to fall to one side or the other, but was relieved by supporting herself against something for a minute or so. Hearing in the left ear became impaired. These attacks continued a few months. In September, 1920, she began to have transitory attacks of blindness. In December, 1920, vision became impaired noticeably between the blind spells, became poorer and poorer, and finally was reduced to light perception. Jan. 11, 1921, headaches of a very severe and intense character developed, lasting a day at a time and returning at intervals of several days. In February, or four months before admission, all vision was lost, and with it the ability to walk alone. She vomited only three or four times during her illness since the last pregnancy. The headaches continued in increasing severity. Most careful neurologic studies were made in a large western city, but apparently no localizing phenomena could be detected, for in May a subtemporal decompression operation was performed with considerable relief.

On admission, the patient was rather worn and ill looking, mentally clear and alert, and not depressed in spirits. She was totally blind, but hearing was not markedly impaired for ordinary conversation.

Movement of the extremities was normal.

There was partial paralysis of the left side of the face, shown by failure to draw up the corner of the mouth on that side as well as on the other side, and a tendency for the upper lid to lag on closing. Sensation was not impaired.

She was totally blind in both eyes. There was right and left internal strabismus. The pupils were dilated and fixed. The conjunctiva was clear and both disks were choked.

The tongue protruded in the midline with no tremor. The teeth were in fair condition.

The biceps, patellar and Achilles reflexes were present and apparently equal on the two sides. The right biceps was not as prompt as the left, but was as forcible. There was no ankle clonus or Babinski reflex. There was slight left hand dysmetria, also adiadokokinesis to a very slight degree on the same side. The heel-to-knee test revealed a slight dysmetria with the right leg. There was a distinct tendency to fall during the Romberg test, as well as in walking.

The ear examination, made the day following the patient's admission to hospital, disclosed the typical findings observed in cases of cerebellopontile angle tumor: that is, the left ear was stone deaf, and stimulation of all the canals on that side produced no responses. The hearing on the opposite side, however, was good, and stimulation of the horizontal canal produced very active nystagmus and past-pointing, while stimulation of the vertical canals produced no responses. The nystagmus obtained was not of the pure horizontal type, but was oblique, or so-called "perverted," which furnished additional evidence of pressure against the brain-stem. In the report to the brain surgeon we indicated that the patient had a cerebellopontile angle tumor on the left side, and suggested that it was probably an encapsulated growth, because there was no evidence of cerebellar involvement.

This examination was made before the patient was studied neurologically and without a knowledge of the neurologic aspects of the case. At operation, June 24, a large encapsulated tumor of the left cerebellopontile angle was uncovered.

It is interesting to note that the patient's first symptoms were referred to the ear. Although totally deaf in the left ear at the time of examination, she was unaware that she was suffering from more than a slight impairment of hearing. From experience with these cases we are convinced that, had she had a careful and complete ear examination with the Bárány method of testing, a much earlier diagnosis of her case would have been made. She would have been spared the needless palliative subtemporal decompression operation, would have had a better chance for the preservation of her vision, and would have been in better condition to survive the extirpation of the tumor.

CASE 2. K. L., a woman, admitted to the Mount Sinai Hospital, Jan. 10, 1921, complaining of headache and dizziness, had begun to have attacks of severe frontal headaches in August of the preceding year. During these attacks she became dizzy, and the vision was blurred. Several days before admission, the patient suddenly fainted, and on regaining consciousness complained of a very severe headache. On admission she presented the appearance of a nephritic, which was corroborated by examination of the urine. The media of the right eye were clear; the nerve head was buried in an exudate, with numerous recent large hemorrhages. There was marked papilledema. The cornea of the left eye was steamy, and the fundus could not be seen.

Neurologic examination revealed ataxia of gait and station; the patient was unable to walk without support, and, in walking, the trunk did not follow the limbs. The knee jerks were markedly increased on both sides, especially the left. Ankle clonus was present on both sides. There was a Babinski reflex, and Gordon's sign on the left side. On the right side Gordon's sign was present at times. The right external rectus was paralyzed. There was some ataxia in both upper extremities. The sphincters were sometimes disturbed, but not definitely so.

The patient had been treated for glaucoma and nephritis, but on January 22 she was sent on a stretcher to the ear dispensary for examination of the ears. She was too deaf and too apathetic for a complete study. Deafness was total on the right side and partial on the left. All that I was able to do was to douche both ears. She could not be made to do any of the pointing tests. The findings were definite, however, in that the only functioning semicircular canal (the left horizontal) produced a vertical instead of a horizontal nystagmus. Stimulation of the right or deaf ear produced no responses whatsoever.

This was the typical picture of a cerebellopontile angle tumor on the right side. Operation several days later verified the diagnosis. It was interesting to note that a prolonged and careful neurologic examination by a highly skilled neurologist pointed to nothing more definite than a "basal lesion." On the other hand, the ear examination carried out in less than fifteen minutes, without the slightest cooperation on the part of the patient, pointed out the exact location of the lesion.

CASE 4.—D. H., a man, aged 30, examined by me, January 27, had been deaf in his left ear for the last five years; had staggered to the left, and had had slight weakness on the left side of the body, and numbness on the left side of the face. There had been definite attacks of vertigo. He was unable to chew well on the left side. Examination disclosed a spontaneous nystagmus on looking in every direction. Turning produced a nystagmus of fair duration but of a perverted kind. The vertigo was much shortened, only seven seconds in turning to the right and nine seconds in turning to the left. The left ear was totally deaf, and stimulation produced no responses from any canal. The right vertical canals did not respond to stimulation, while the horizontal canal gave a fair response. The hearing in the right ear was good. A diagnosis of a tumor in the left cerebellopontile angle was made.

The patient was operated on soon after that, and died two days later. Necropsy confirmed the diagnosis.

It is interesting to note that in this case the deafness came on five years prior to examination—most likely being due to an involvement of the eighth nerve by the tumor. A neoplasm, therefore, must have been there at least five years. It is also interesting that a digital examination at the time of operation failed to reveal the tumor. If no necropsy had been available later, the diagnosis would never have been confirmed.

CASE 6.—A. A., a woman, had been a patient at one of the hospitals since Sept. 19, 1921. She had had frequent headaches followed by vomiting up to the age of 38, when they ceased until recently. In June, 1920, she noticed that her vision was failing. This was getting progressively worse, but had not reached the stage of total blindness.

Physical examination showed that there was no ataxia of gait to either side; all the reflexes were hyperactive but equal; there was no weakness, no astereognosis, adiadokokinesis or dysmetria. There was no disturbance of sensation or of the sense of position. Both eyes had choked disks.

Ear examination revealed the left ear stone deaf, with no response to stimulation. Hearing was good in the right ear; the horizontal canal responses were prompt and active; vertical canals gave no responses; in others words, this was a typical picture of the cerebellopontile angle tumor on the left side, and operation and necropsy verified that diagnosis.

It is interesting to note that the patient was studied for more than a month by the most skilled neurologists and clinicians without any focalizing sign being discovered. She had all the symptoms of a brain tumor, but no signs to point to its location. The ear examination pointed out accurately in a very few minutes the location of the neoplasm.

TUMORS OF THE POSTERIOR FOSSA

Although tumors of the cerebellopontile angle furnish the most definite complex of findings in the Bárány tests, yet they are not the only types of lesion in which these tests are useful. Tumors of the posterior fossa generally show rather definite findings on vestibular examination. In these cases the vertigo and past-pointing responses are particularly affected, while the eye responses are either normal or exaggerated. The following cases will serve as illustrations:

CASE 8.—C. R., a man, aged 40, referred for examination from Martins Ferry, Ohio, Jan. 7, 1921, had been well until March, 1920, when he began to complain of dizziness and pain in the back of his head. The dizziness was aggravated on looking up. He kept on working, however, until November of that year, when he noticed a weakness in his right arm and hand. This was particularly noticeable when he attempted to write. The condition progressed slowly until eight weeks before examination, when he was compelled to go to bed. Vomiting appeared at that time. He never had any pain. For the last ten days, he had complained of double vision.

This patient was referred directly for an otologic examination because of his dizziness. The vestibular tests disclosed that hearing was normal in both ears. Turning produced marked nystagmus, but shortened vertigo with poor past-pointing. The douching tests showed that both eighth nerves readily conducted stimuli from both labyrinths. The responses, however, suggested pressure within the fourth

ventricle. The quick component of nystagmus emanating from the left cerebrum appeared to be interfered with.

It was, of course, evident that the patient's vertigo and other symptoms were the result of a brain lesion, and from an ear standpoint the differential diagnosis lay between a left-sided, subcortical cerebral lesion and one in the right posterior fossa. The marked impairment of the vertigo on stimulation, however, taken together with the other findings, seemed to suggest that the lesion was probably located in the right posterior fossa in the region of the angle, but not involving the right eighth nerve.

The patient was then referred for a neurologic examination. In walking, the right leg was held stiff and was placed in front of him, after which the left leg was brought up to it. The foot was not dragged. The Romberg sign was present; there was a tendency to fall to the right. There was an absence of contraction of the masseter muscle on the right side. The pterygoid action was not at fault. He could move the jaw from side to side. The angle of the mouth was not drawn as well to the right as it was to the left. He could use both arms, but the left arm seemed stronger than the right one (he was a right-handed man).

Biceps jerk and triceps jerk active plus plus on the right.

Biceps jerk and triceps jerk not present on the left side. The finger-to-nose test was not performed accurately with the right hand; there was a tendency for it to go to the right of the nose. Adiadokokinesis was present on the right side, rotation being slow and at times irregular and sometimes associated with a coarse tremor. The patient could make all movements with his legs, but the right leg was a trifle weaker than the left. The knee jerks were equal on both sides and were not increased. Irritation of the soles of the feet caused a marked defense reaction. There was a Babinski reflex on the right side, while on the left side there was a tendency to one. The heel-to-knee test was fairly well performed, but not as accurately with the right as with the left. The patient appreciated direction of passive motion in his feet, toes and fingers. There was no headache. He stated that the right hand felt as though it were benumbed with cold. The tactile and pain sense was good in both arms. He complained of numbness of the right side of the face, but the tactile and pain senses were normal. The pulse was normal. Moving the patient about, which was necessary for the examination, made him vomit. He complained of occipital discomfort. The tongue was protruded straight. The jaw possibly went to the right when the mouth was wide open. Sensation of the right cornea was impaired. His stereognostic sense was normal.

Operation several days later revealed a large glioma of the right cerebellum.

HIGHER LESIONS

In lesions located "higher up," the Bárány tests will also be of value. Unfortunately, up to date not a sufficient number of such cases have been carefully studied and followed to the necropsy table to make the findings more than merely suggestive. In supratentorial lesions the vertigo responses will be found either normal or subnormal, but the past-pointing will be exaggerated both in extent and duration. Case 11 was one of the several of this type we have seen:

Case 11.—E. T., a man, admitted to Mount Sinai Hospital, Dec. 29, 1920, complained of constant headache, and pain in the left ear. The headaches started two months before admission, and became steadily more severe and persistent. They were more marked over the temporofrontal region. In addition to headaches, there was considerable pain over the left auricular region. He had frequent attacks of dizziness followed by fainting spells, but no frothing at the mouth. Vomiting occurred every morning after breakfast only. When the patient did not eat breakfast, there was no vomiting.

The patient was well nourished, with no dyspnea or cyanosis. The head, neck, chest and abdomen were negative. The eye grounds were normal. The preliminary, general and neurologic studies suggested a basal lesion.

An ear examination Jan. 7, 1921, nine days after admission, disclosed that the vestibular responses were all present, indicating that the pathways from both ears throughout the brain-stem and cerebellum were intact. However, the responses were exaggerated, especially the past-pointing, and this was interpreted as probably due to an irritation of the pathways. If the symptoms were due to a neoplasm, the neoplasm would have to be situated where it could produce the most irritative effects on the cerebellum. The cerebellum itself, however, appeared to function normally. It was thought that a supratentorial lesion directly above the cerebellum could produce such an irritative effect. The only evidence to suggest the side on which such a lesion could be situated was the fact that the cerebro-ocular tracts for the quick component of nystagmus to the right appeared more affected than the corresponding component for nystagmus to the left. This suggested a left-sided lesion.

A careful neurologic examination made four days later revealed not marked but distinct right-sided weakness. Movements on the right side were more sluggish than on the left. The knee jerk on the right side was more marked than on the left. There was no ankle clonus on either side nor Babinski reflex but there was a distinct Gordon's sign on the right side. Sensations were normal on both sides. The lower abdomen and cremasteric reflexes on the right were hardly obtainable. There was also a distinct homonymous hemianopsia. The gait was very uncertain. There was evident asynergia, and he dragged the right side more than the left. There were murmurs at the aortic orifice. In view of the right-sided symptoms and hemianopsia, the neurologist presumed that the lesion was in the left hemisphere and involved the left internal capsule as far back as the radiation. As to the nature of the lesion it was difficult to determine, but the indications favored a neoplasm.

Operation later disclosed a large abscess in the left occipital lobe.

In cases of neoplasm of the pituitary body the first effects of the pressure are exerted against the vestibulo-ocular tracts. In these cases the examination reveals an exaggerated nystagmus, but normal vertigo and past-pointing. A large number of pituitary cases examined and verified by operation gave this vestibular picture.

SUMMARY

1. In cases of cerebellopontile angle lesion the Bárány tests are absolute. By means of them these lesions can be definitely located or excluded long before the appearance of the ordinary clinical findings.

2. Lesions of the posterior fossa generally give fairly constant findings in the Bárány tests. I believe that they are of great value in the differential diagnosis between a subtentorial or supratentorial lesion.

3. The Bárány tests are also helpful to a lesser degree in lesions in the middle or anterior fossa.

Health in Russia.—*The World's Health*, a monthly review published at Geneva by the League of Red Cross Societies, notes in the March number that the populations of Moscow and Petrograd had decreased 49.6 and 71 per cent., respectively, between 1918 and 1920, and that the tendency toward depopulation is quite general among all other Russian cities. That the death rate had much to do with this reduction seems clear: for Moscow and Petrograd it was 28 and 43.7 per thousand, respectively, in 1918, and 46.2 and 69.1 per thousand, respectively, in 1920. Inquiry into the asylums for the insane disclosed that before the war these institutions were able to accommodate only from 10 to 20 per cent. of the certified insane cases, and that now they are half empty. The mortality in the asylums has tripled, and is now 30 per cent. of the total number of cases. Medical superintendents of both the asylums and hospitals suffer a high mortality from overwork, undernourishment, tuberculosis and suicide. In 1920, of the 2,000 physicians in Kharkof, 203 contracted typhus and sixty-six died, a case mortality of 33 per cent.

SOME OF THE FACTORS CONTRIBUTING TO TOXICITY OF BOTULINUS TOXIN BY MOUTH *

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Botulism, a comparatively rare disease in this country, but one apparently increasing in prevalence, is caused by eating food contaminated with botulinus toxin. Botulinus toxin is a poisonous substance elaborated by *Bacillus botulinus* and quite analogous to the better known toxins produced by *B. diphtheriae* and *B. tetani*. These three toxins are usually considered as the only true bacterial exotoxins. They resemble one another in many respects, but differ quite markedly in others.

The bacteria-free filtrates from cultures of these three organisms are exceedingly toxic for experimental animals. Thus, it is possible to produce diphtheria toxin of which 0.001 c.c. kills a guinea-pig. Tetanus toxin is usually more potent, so that only 0.000001 c.c. is necessary to produce the same effect. Botulinus toxin, as ordinarily produced, is often ten times more potent than tetanus toxin.

Botulinus toxin, similarily to the other two toxins, is easily destroyed by heating to a comparatively low temperature. Heating to 80 C. destroys it practically at once.[1]

In the case of *B. tetani*, it has been found that the antitoxin produced by immunization with the toxin of any one strain will neutralize the toxin produced by any other strain of *B. tetani*. All the strains of *B. diphtheriae* have been similarily considered to be homologous.

Some recent work [2] would seem to indicate that there are slight differences in this respect among different strains of diphtheria bacilli, but this work is not yet generally accepted.[3] In the case of *B. botulinus*, however, it has long been known that there are two distinct types of toxin.[4] The individual strains within each of the two groups of *B. botulinus* are entirely homologous (as judged by toxin-antitoxin neutralization), but the two groups designated type A and type B show no cross-neutralization.[5] In addition to the grouping by toxin-antitoxin neutralization, the various strains of *B. botulinus* have been differentiated in our laboratory by other immunologic tests, such as complement fixation, precipitation and agglutination reactions.[6] Recently Bengtson [7] has described a strain of a botulinus-like organism, the toxin of which is not neutralized by either of the two type antitoxins. It appears that in the case of *B. botulinus* we are dealing with a group of bacteria, the members of which have very similar cultural characteristics and cause similar symptoms in man and experimental animals, but differ from each other in their immunologic reactions.

In addition to the properties of being relatively thermolabile and of stimulating the production of specific antitoxins when injected into animals, the true bacterial toxins are known to give rise to symptoms and to cause death in animals only after a characteristic incubation period, thus differing from the metallic and alkaloidal poisons, which act more rapidly. Although this incubation period may vary within certain limits with the dose of toxin, it can never be reduced below a certain minimum, no matter how large the dose injected. Thus, for tetanus and diphtheria toxins it has never been reduced below from eight to twelve hours. We have found that in the case of botulinus toxin the period of incubation can be reduced so that the first symptoms appear in about thirty minutes, and death occurs in from one and one half to two hours after injection. Thus, the minimal incubation period in the case of botulinus toxin is much shorter than is the case with either diphtheria or tetanus toxins.

We have noticed [8] that when massive doses (from 0.3 to 0.5 c.c.) of the toxic filtrate from a botulinus culture are injected intraperitoneally into mice, the animals may show a marked reaction immediately after the injection, and may die in from five to fifteen minutes. The symptoms, however, are of an entirely different character from those characteristic of the specific botulinus poisoning. Moreover, such toxic filtrates, previously heated in a sealed tube to a temperature sufficient to destroy the specific toxin, still killed mice when massive doses were injected. We have also found that botulinus antitoxin does not neutralize this toxic effect of massive doses of the culture filtrate. The substance causing the rapid death is thus not the true botulinus toxin, since it is thermostable and is not neutralized by antitoxin, in addition to acting without an incubation period.

Our experiments indicate that the toxicity of massive doses of the filtrates from botulinus cultures is due to the high concentration of ammonia salts in them. Moreover, the filtrates from cultures of other proteolytic organisms, such as *B. proteus* or *B. sporogenes*, when injected intraperitoneally in massive doses into mice give rise to similar symptoms and cause death within fifteen minutes.[9]

These observations have practical significance in connection with the detection of botulinus toxin in suspected foods. Bengtson [8] has recently recommended that this diagnosis be made by the injection of large doses of extracts of suspected food intraperitoneally into mice. However, such foods may be contaminated with other proteolytic organisms than *B. botulinus*, and may cause the death of injected animals on account of the ammonia salts they may contain. We wish to emphasize, therefore, the necessity of controlling such injections by simultaneous control injection of antitoxin.[10] Moreover, since strains of *B. botulinus* may be encountered which produce toxins not neutralized by the usual type antitoxins,[7] even such control is not adequate. Two other controls must be included in which the thermolability of the toxic product is tested. This can be accomplished best by heating two samples

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of the suspected food respectively in an open tube (after having rendered it distinctly alkaline to volatilize the ammonia) and in a closed tube (after rendering it neutral) before injecting them into control animals.

To sum up, we find that the specific botulinus toxin is quite analogous to diphtheria and tetanus toxin in all the essential properties identifying it as a true bacterial toxin. It can be isolated from cultures by filtration. It kills experimental animals in small doses with symptoms characteristic of the disease. It is thermolabile, and it is neutralized by a specific type antitoxin. Symptoms of poisoning appear after a characteristic incubation period, but this period is appreciably shorter than in the case of either tetanus or diphtheria toxin.

DIFFERENCES OF BOTULINUS TOXIN FROM OTHER BACTERIAL TOXINS

There is one characteristic, however, in which botulinus toxin differs very sharply from either tetanus or diphtheria toxin. Neither of the latter two toxins is poisonous when taken by mouth even in large doses, whereas botulinus toxin is toxic by mouth in very minute amounts. This property seems to indicate a fundamental difference in the nature of botulinus toxin, as compared to that of diphtheria or tetanus toxin.

The lack of toxicity by mouth of tetanus and diphtheria toxin has long been ascribed to the fact that they are readily destroyed by the digestive juices. The first question to settle, therefore, was whether botulinus toxin—which is toxic by mouth—is resistant to the conditions it encounters in the stomach and intestines.

We have found [11] that botulinus toxin resists an acidity fully equivalent to that of the stomach even when exposed to it for twenty-four hours at 37 C. It is less resistant to alkali, and is reduced in potency about ten times when kept for twenty-four hours in a weak alkaline solution ($p_H = 8.0$). In view of this relative instability of botulinus toxin in mildly alkaline reaction and its marked resistance to acid reaction, it seems likely that botulinus toxin is in the main absorbed from that part of the digestive tract which is acid in reaction, namely, the stomach and upper duodenum. However, the destructive effect of alkali is not very marked, and there may still be some absorption from the intestine.

We have found [12] that neither trypsin nor pepsin has any destructive effect on botulinus toxin. This cannot be ascribed to some ferment-inhibiting action of the toxin, as in the control experiments the digestive action of pepsin on edestin or of trypsin on casein was not decreased by the presence of botulinus toxin.

As a result of the properties described above, botulinus toxin is not markedly weakened by its passage through the stomach and intestine, and thus might be absorbed into the circulation. However, bacterial toxins have heretofore been looked on as belonging to the class of proteins of the nature of albumoses (toxalbumoses). At the present time it is not considered that proteins of the complexity of albumoses are ordinarily absorbed as such from the normal intestine. The fact that botulinus toxin resists both peptic and tryptic digestion, and that it is absorbed directly through the digestive tract, suggests that it must be of a much simpler structure than an albumose. There is another possibility, however, namely, that botulinus toxin or some substance associated with it increases the permeability of the intestine and thus permits a complex molecule of toxin to be absorbed. Some of our experiments indicate that the crude filtrate from botulinus cultures may, in fact, contain substances capable of increasing the permeability of the intestine for botulinus toxin.[13]

If crude filtrate is saturated with ammonium sulphate, the precipitate which is obtained contains all the toxin, the soluble fraction being nontoxic. This precipitated toxin, however, shows new properties. The relation between the size of the minimal lethal dose by mouth and that by intraperitoneal injection of the original toxin is 1,000: 1. If the precipitated toxin is redissolved and similarly tested, the relation between the minimal lethal dose by mouth and that by injection becomes 100,000: 1; that is, while the toxicity by injection remained unchanged, the toxicity by mouth decreased 100 times as a result of the precipitation of toxin.

Suspecting, as we stated above, that the toxicity of crude botulinus toxin by mouth may be due in part to the increase in permeability of the digestive tract, we ascribed the diminution in toxicity of precipitated toxin to its separation from the supernatant fluid, which might contain the substances affecting the permeability of the intestinal tract. Indeed, we succeeded in restoring to purified toxin most of its toxicity by mouth by adding to it proper amounts of the fraction soluble in saturated ammonium sulphate.

Besides differing from other bacterial toxins in that it is toxic by mouth, botulinus toxin differs from them also in other respects. Thus precipitation with ethyl alcohol, even when carried out at 0 C., practically destroys botulinus toxin, while both tetanus and diphtheria toxins can be obtained in a highly purified condition by precipitation with alcohol. This effect of alcohol on botulinus toxin had been previously suspected.

PROTECTIVE EFFECT OF ALCOHOL

In several recent outbreaks of food poisoning resulting from eating food contaminated with botulinus toxin, some of those exposed escaped altogether, or exhibited only mild symptoms. The investigators who studied these outbreaks observed that some of those who escaped severe poisoning had partaken rather freely of alcoholic beverages during the meal.[14] Our results in vitro pointed in the same direction, and in direct experiments we found that the introduction of alcohol by mouth immediately after botulinus toxin would protect a guinea-pig against at least three times as much toxin as would kill a normal guinea-pig in twenty-four hours.[15]

These experiments have shown, moreover, that the relative amount of food present in the stomach markedly influences this protective effect of alcohol, thus suggesting that the effect of alcohol on botulinus toxin in vivo may be analogous to its action in vitro—namely, that the toxin is precipitated and denatured by the direct contact with alcohol. The excess of food which

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may be present will serve to diminish this denaturing action of alcohol on toxin. In the course of these experiments it was noticed that also in absence of alcohol, the presence of food in the stomach tends to increase the activity of botulinus toxin. The same dose of toxin which is fatal to a starving guinea-pig in four days kills a guinea-pig receiving 3.5 gm., of rolled oats with the toxin in eighteen hours. It seems, therefore, that active digestion actually increases the potency of botulinus toxin.

RESULTS OF ACIDIFICATION

We have stated earlier that botulinus toxin is not destroyed by the acidity equal to that of the stomach.[11] In a number of experiments, whenever one of the steps in the manipulation of toxin resulted in increase of its hydrogen ion concentration, we have often observed that this change seemed to increase its potency. In view of these casual observations, we suspected that the greater potency of toxin during active digestion (as compared with its potency in the empty stomach) may be due at least in part to the increased secretion of acid. We decided, therefore, to study more critically the question of the effect of acid on botulinus toxin. Careful titrations of toxin acidified in vitro disclosed a remarkable increase in its potency.[11] Thus, starting, for instance, with the crude botulinus filtrate of which 3×10^{-6} c.c. represents a minimal lethal dose for a mouse, by mere adjustment of the hydrogen ion concentration of the filtrate to that approximately equal $p_H = 4.0$, we usually obtained a product killing mice quite regularly in the dose of 3×10^{-18} c.c., and occasionally in the dose of 3×10^{-21} c.c. That this extraordinary increase of potency of botulinus toxin is directly due to the effect of acidification was definitely shown, since the proper neutralization of the solution of this highly potent toxin resulted in its returning to its original titer (of M. L. D. $= \times 10^{-6}$ c.c.). Moreover, if such neutralized solution of toxin is again brought to acidity of $p_H = 4.0$, its potency increases again to a degree almost as high as that observed on the first acidification.

In all the experiments thus far performed, we have used the filtrate of a single strain of *B. botulinus*. Even with this single strain, some batches of the filtrate failed to yield a high potency toxin on acidification by the usual procedure. In a growing culture the toxin very quickly loses the property to yield a product of the potency indicated above (M. L. D. $= 3 \times 10^{-18}$ c.c.). As the culture grows older, the crude toxin assumes a more stable form, which is not changed to such a great extent by acidification. However, if a culture is filtered (through unglazed porcelain) at the state when it is capable of yielding the product of this extremely high potency, such filtered toxin keeps this property for a considerable period, if preserved in the dark at low temperature and under a vacuum. However, our most recent results indicate that probably all batches of toxin may be increased in potency if proper conditions of acidification, time and temperature are found for each.

The highly potent product obtained from the crude filtrate of *B. botulinus* is thermolabile. It is destroyed by heating to 80 C. for a few minutes. Moreover, it cannot be produced by acidifying the heated (80 C.) botulinus filtrate.

We find that Type B antitoxin had no protective power against acidified toxin of Type A, while the latter is efficiently neutralized by even a small amount of homologous (Type A) antitoxin. In fact, we found that whereas the injection of 0.1 c.c. of Type A antitoxin is sufficient to protect the mice only against 100 lethal doses of the crude Type A toxin, this small amount of antitoxin is sufficient to protect mice against many million lethal doses of the acidified toxin of Type A. This and other similar results suggest that the protective power of botulinus antitoxin against varying numbers of lethal doses of the high potency (acidified) toxin apparently does not follow the "law of multiple proportions" as formulated by Ehrlich.

The high potency toxin produces symptoms and death in animals only after an incubation period. The injection into mice of many millions of minimal lethal doses of this high potency toxin is never followed by death of the animals before the expiration of from one and one-half to two hours. With decreasing doses, the incubation period is accordingly lengthened, and when very small doses are injected (3×10^{-21} c.c.) the incubation period is lengthened to forty-eight or seventy-two hours, and some of the animals recover. We have never had a mouse die after an injection of less than 3×10^{-21} c.c. of acidified toxin.

The highly toxic product obtained from the crude botulinus filtrate by acidification is thus in every respect analogous to true bacterial toxins. It is active in minute amounts. It is thermolabile, it can be neutralized in a specific manner by a homologous antitoxin, and it kills only after an incubation period. As a product of botulinus toxin, it should also be toxic by mouth. We found that acidified toxin kills when fed, but the dose required to accomplish this effect is just as large as the dose of crude filtrate from which the high potency toxin was prepared, in spite of the fact that, when injected intraperitoneally, the acidified toxin is many million times more potent than the crude toxin. In view of the experiments described above, we feel that this result can be interpreted to mean that placing the crude filtrate in the stomach consists essentially in an acidification in vivo with a resulting increase in potency similar to that which can be accomplished by acidification in the test tube. Therefore, when given by mouth, there can be no essential difference in potency between crude toxin and toxin acidified in vitro before feeding.

SUMMARY

It might be said that the crude filtrate from a botulinus culture, known as botulinus toxin, is of a composite nature containing both the specific botulinus toxin and some substance or substances nontoxic in themselves but capable of increasing the permeability of the intestine so as to permit the absorption of the specific botulinus toxin. Botulinus toxin can be absorbed by this route by virtue of the fact that it is resistant to the conditions of the hydrogen ion concentration and to the enzymes found in the digestive tract. The specific botulinus toxin is capable of an extraordinary increase in potency when it encounters the condition of hydrogen ion concentration similar to that present in the stomach during active digestion. This increase in potency is so marked that were only an infinitesimal quantity of the acidified toxin absorbed into the general circulation, it would be sufficient to kill the animal. Since the potency of acidified toxin is again reduced when it is neutralized (as would occur in the small intestine), it seems likely that botulinus toxin is absorbed to a large extent from the stomach and upper duodenum.

DYSPITUITARISM

REPORT OF A CASE OF POSTERIOR LOBE INSUFFICIENCY CONTROLLED BY ORGANOTHERAPY *

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Pituitary disease in the last few years has occupied a conspicuous place in medical literature. Many instances of disturbances of function of the pituitary gland have been reported, as well as experimental studies of its physiology.

For a number of years we have observed a patient in whom the alleviation of symptoms through organotherapy has been so striking that a brief report should be submitted.

REPORT OF CASE

History.—L. M., a Russian Jew, aged 38, was first admitted to the medical clinic, Feb. 22, 1916, complaining of sleepiness. In November, 1914, the patient first noticed that he began to feel sleepy and drowsy while at work or when walking. This symptom increased until June, 1915, when he consulted a physician. Occasionally, while working, his head would fall forward, and he would drop off into a profound slumber. Sometimes while people were talking to him, or while on the street, he has been compelled to sit down and sleep. Ocasionally, before sleeping, he felt dizzy, and objects swam before his eyes. Once, while walking, he fell, going into a profound sleep. He said it seemed as if a cloud came over him. He made no outcry to his knowledge, and had no muscular twitching. Severe frontal headaches, lasting about twenty minutes, began in December, 1915. They recurred at irregular intervals, sometimes weeks apart. Since the present illness began, his memory has been defective.

In 1906, the patient weighed 210 pounds (95 kg.) His weight remained fairly constant until 1913. In 1914 he weighed 270 pounds (122 kg). In 1915, he first consulted a physician. He was given thyroid tablets, and his weight decreased to 246 pounds (111 kg.) in a short time.

For several months in 1916, the patient urinated at least five times during the day and ten times at night. He did not know the amount voided in the twenty-four hours, but thought that single voidings were often as much as a pint. He had drunk about eight glasses of carbonated water daily.

Early in 1916, his sexual powers weakened. For nearly eight months in 1916, he had been troubled with severe and drenching night sweats; these were apparently uninfluenced during the period of thyroid administration.

Physical Examination.—In 1916 the patient was obese, of average height, and sturdy. The skin was soft, elastic, and moist in the axillae. The panniculus was abundant and evenly distributed. There were no pads in the supraclavicular fossae. The hands were short, relatively broad, and spade-like. There were no supernumerary nipples; the mammary glands were not hypertrophied. The hair on the head was abundant. The facial, axillary, thoracic and suprapubic hair showed a normal growth and distribution. The external genitalia were normally developed. There was no edema. The feet were short and thick.

The lips were cyanotic. The pupils were equal, and reacted actively to light and accommodation. The fundi were normal. The sclerae were clear. The patient wrinkled his forehead well on looking upward. There was a well marked von Graefe's sign. There was an occasional stare on fixing his gaze. Convergence was strong, but, when converging, both upper lids were raised. The patient had an extra peg-shaped tooth situated posterior to the right middle upper incisor; there was no spacing. There was considerable pyorrhea alveolaris. The tongue was moist and coated white. The tonsils were hypertrophied; the pharynx was reddened. The patient breathed through his mouth, and his speech suggested nasal obstruction.

The neck was short and thick. The cricoid cartilage was at the upper end of the sternum. The thyroid gland was not palpable.

There was no general lymphatic glandular enlargement.

The thorax was large, deep anteroposteriorly and laterally; the epigastric angle was obtuse. The lungs were normal throughout except for slight prolongation of expiration.

The heart was normal. The abdomen was negative.

The urine, February 23, was acid, and the specific gravity was 1.019. There was no albumin, and no sugar.

A blood examination, February 25, revealed erythrocytes, 6,170,000; leukocytes, 7,500, and 90 per cent. hemoglobin. There were 56 per cent. polymorphonuclears, 38.5 per cent. lymphocytes, 5 per cent. large mononuclears, and 0.05 per cent. transitionals. The Wassermann reaction was negative.

Roentgen-ray examination of the sella turcica, February 24, showed it to be normal in size and outline.

Sugar tolerance was low on two estimations about one week apart. Perimetric determinations of the visual fields showed a slight bitemporal contraction.

A diagnosis of dyspituitarism was made.

Treatment and Course.—The patient left the hospital, March 8, 1916, and was given anterior pituitary extract for several months, but no improvement was observed. He was then given the whole gland extract, and after about one month slight improvement was noticed. However, he lost weight slowly, and drowsiness persisted, though not so marked as before. At this time, he was also placed on a reduction diet. The improvement on whole gland extract after three months was slight.

September 6, 1916, he was placed on posterior lobe extract, and there was remarkable improvement within a few days. October 1, he weighed 212 pounds (96 kg.), which was 56 pounds (25 kg.) less than when treatment was started. He received the posterior lobe for about one month, when the supply was exhausted. He was again placed on whole gland, and one week later complained of severe headaches, drowsiness, frequent urination, and loss of sexual power. He was again placed on posterior lobe extract, and the relief of his symptoms was marked within forty-eight hours. He has been on posterior lobe extract intermittently since September, 1916.

At times when he had no extract, there was recurrence of all his symptoms. One grain (0.065 gm.) of posterior lobe daily was sufficient to keep him free of symptoms. After the use of posterior lobe extract for one year, his weight was 209 pounds (95 kg.), and he was rarely drowsy at work; he was seldom awakened more than once to void at night, and he had only an occasional frontal headache. The patient remained well and did not return for several months.

In January, 1918, his weight was 230 pounds (104 kg.). There was recurrence of the drowsiness, and severe headaches, which usually diminished as the drowsiness disappeared. There was increase of frequency in voiding at night. He developed an acute exacerbation of a chronic suppurative otitis media, and was treated by an otologist.

In February, 1921, the patient developed acute tonsillitis, which was followed by nephritis. There was an exaggeration of his previous symptoms. The posterior pituitary lobe extract was given again in somewhat larger doses without any other treatment except rest. In eighteen days he lost 52 pounds (24 kg.). There was general diminution of the swelling of his face and legs; voiding at night diminished to two times, though his urine continued to show a moderate cloud of albumin and an occasional cast.

Since March, 1921, he has felt very well. He has taken about one grain of posterior lobe extract a day, and has had no symptoms. He weighs 215 pounds (98 kg.), and has continued to work as a shoemaker.

The blood sugar, March 30, 1921, on a fasting stomach was 0.133 mg. per hundred cubic centimeters. Two hours later, after receiving glucose for a tolerance test, it was 0.239 mg. per hundred cubic centimeters. A basal metabolism reading on that date was 8.2 per cent. above normal.

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COMMENT

We wish to emphasize in this study that (1) obesity, (2) drowsiness, (3) headache, (4) frequent nocturnal urination, (5) loss of sexual power and (6) impairment of memory have been relieved and controlled over a period of six years by posterior lobe extract.

After six years' treatment with posterior lobe extract, despite the control of symptoms, sugar tolerance remains low.

A BASIS FOR THE PREVENTION OF CANCER

RECOGNITION THAT INJURY, INFLAMMATION AND IRRITATION ARE IMPORTANT FACTORS IN CAUSATION *

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In a number of textbooks, some recent, and in an occasional current review, one encounters discussions of the cause or causes of tumors that minimize or treat lightly any alleged influence of irritation in the production of neoplasms, particularly malignant growths. In a comparatively recent publication [1] it is stated that "we are still a long way from finding an agent or method that will produce a cancer in every animal to which it is applied." One is tempted to inquire, Have we reached that stage in tuberculosis, diphtheria, pneumonia, syphilis, and have we any reason to expect to attain such an ideal in our study of the etiology of tumors?

This article is presented with the intention to combat the tendency indicated, and to summarize some of the accessible data which, I believe, go far to establish the conviction that, of all the possible factors operative in producing cancer, irritation occupies a position of first importance. The belief is not new; much of the evidence, and some of that more recently acquired, is most convincing; I am not aware that it has been lately collated.

Ewing,[2] in his study of precancerous conditions, has cited many of inflammatory nature. Injury does not include all forms of injury, nor even a single form, but rather different types variously manifested; prolongation or frequent recurrence of action constitutes an important factor; when one speaks of irritation as a cause of cancer one is prone to think of all types of injury, e. g., recent wounds, broken bones and pyogenic infections, including definite suppurative processes, with none of which does tumor production appear to be frequently and intimately associated. Regressing through more than half a century to the remoter phases of such relations so strongly urged by Virchow often yields us nothing convincing. Percival Pott's study of chimney-sweeps' cancer (1775) is far distant; the kangri stove cancer, and the betel-nut chewers' cancer, for which even Ellis' [3] most recent accurate study is inconclusive, are not encountered, and one is prone to overlook the wealth of evidence that their history records. That soot-cancer, kangri stove cancer and betel-nut cancer are phases of malignancy due to irritation is clearly proved. Chimney-sweeps' cancer has fallen into new lines which include soot-cancer, pitch-workers' cancer, tar cancer (both acquired and experimental), charcoal-burners' cancer, briquette-makers' cancer, paraffin cancer, anthracene cancer, anilin dye cancer, grease-workers' cancer, and possibly other forms of industrial and occupational [4] disease. As further examples of irritation in cancer production should be added smokers' cancer of the lip, tongue, gingival and buccal mucosa, cancer due to faulty dentures, plates and bridges, roentgen-ray cancer, arsenic cancer, including sheep-dip cancer,[5] manure warts and cancers, and cancers arising on dermatoses and on tuberculous, syphilitic, blastomycetic, leptothritic and allied infections.

EXPERIMENTALLY PRODUCED CANCER

Practically all information concerning experimentally induced cancer in animals recognizes irritation—often prolonged—as the only established factor. Tar cancer, produced by Yamagiwa and Ichikawa, Tsutsui, Fibiger and Bang, and Murray and Woglom,[6] follows the repeated, frequently long continued, application of coal tar or of substances derived from it. Bloch and Dreifuss [7] have shown that tar cancers can be produced in rabbits, but that mice are more susceptible; they have seen as many as twenty metastatic nodules in the lung of an animal with experimentally induced tar cancer. Definite malignancy of these lesions has been established by progressive growth, autoplasts, metastasis and death of experimental animals. For those committed to the microbic or parasitic origin of tumors it is interesting to note that the cancer-producing irritant resists heating to 300 C. (572 F.) and is carried over during distillation. The results seem convincing, even though a single agent responsible for the change has not been isolated; this is not surprising if we recall that at least 125 different substances have been isolated from coal tar.[8]

That the irritation produced by animal parasites may develop into cancer has long been recognized; inflammation and tumor of the appendix have been known to have such an origin, and Ferguson has seen cancer of the bladder produced by the protracted action of the bilharzial eggs in the submucosa; aside from statistical proof concerning cancer of the rectum and of the bladder among people suffering from bilharziosis, the anatomic evidence presented by Ferguson [9] is conclusive; as in other forms of irritation, time is an important element, months to years of infestation or reinfestation being the rule, to which, however, there are many exceptions. This relation of bilharziasis to vesical and rectal cancer has been fully supported by the observations of Fairley,[10] and more recently by

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1. The Experimental Production of Cancer, editorial, J. A. M. A. **76**: 1404 (May 21) 1921.

2. Ewing: Pub. Cornell Univ. Med. College, Studies from the Dept. of Pathology, Bact., Exper. Path., Exper. Therap. **14**, 1914; Neoplastic Diseases, Ed. 2, Philadelphia, 1922, p. 475.

3. Ellis, A. G.: Betel-Nut Chewing and Its Effects, Arch. Int. Med. **28**: 252 (Sept.) 1921.

4. For review of Occupational Cancer, consult Ross, H. C.: J. Cancer Res. **3**: 321 (Oct.) 1918. For studies of anthracene cancer, consult O'Donovan, W. J.: Brit. J. Dermat. **33**: 291 (Aug.-Sept.) 1921; Epitheliomatous Ulceration Among Tar Workers, ibid. **32**: 215 (July), 245 (Aug.-Sept.) 1920. For further data on industrial cancer with special reference to tar and pitch and epithelioma, consult Annual Report of the Chief Inspector of Factories and Workshops for 1919, London, 1920, pp. 60 and 110; for 1920, London, 1921, p. 126.

5. Pye-Smith: Lancet **2**: 210, 1913.

6. Much of the literature is given by Murray and Woglom, Seventh Scientific Report of the Investigations of the Imperial Cancer Research Fund, London, 1921, p. 45. Consult also Yamagiwa and Ichikawa: Mitt. a. d. med. Fak. d. k. Univ. zu Tokyo **17**: 19 (March) 1917, details of experiments with illustrations. Deelman, H. T.: Nederlandsch Tijdschr. v. Geneesk. **2**: 2395, 1921. DeVries: Ibid., p. 2415.

7. Bloch and Dreifuss: Schweiz. med. Wchnschr. **51**: 1033, 1921.

8. U. S. Dept. Labor Month. Rev. **21**: 109, 1920.

9. Ferguson: J. Path. & Bacteriol. **16**: 76-794, 1911.

10. Fairley, N. H.: Proc. Roy. Soc. Med. 13: 1 (Nov.) 1919.

Kazama [11] in his study of the relation of Japanese schistosomiasis to cancer of the intestine.

Those who require clinical evidence supported by experimental data may read of the production of cancer of tongue and stomach in rats by Fibiger,[12] who used *Spiroptera neoplastica;* Kopsch [13] induced tumors in frogs by means of the nematode *Rhabditis pellio;* Bullock and Curtis [14] appear to have produced sarcoma in the liver of rats by feeding eggs of *Taenia crassicolis,* the neoplasm developing in connection with the cysticerci. It is important to note that in Fibiger's [15] spiroptera cancer, metastases and transplants grow without and do not contain the parasite, the epithelial cell having acquired the ability to proliferate without any known accessory irritant, stimulant, auxiliary or other extrinsic factor; to its progeny the cell transmits acquired characters. In this connection it is necessary to state specifically that no one believes any nematode or other parasite a specific cause of all tumors or of any group of tumors; but the evidence that irritation induced by the parasite is frequently followed by malignant tumor seems fully established, both clinically and experimentally. The belief that cancer might be due to coccidia, advanced by Pfeiffer, Darier, Wickham, d'Albarran and others, appeared to be satisfactorily set aside by the comprehensive studies reported by Fabre-Domergue [16] thirty years ago; the structural resemblance of some definite coccidial growths to cancer obviously depends on the reaction in certain cells of the host due to the irritation brought about by the parasite—a further evidence of similarity of such activities to malignant growths.

ETIOLOGIC RELATIONSHIP OF INFECTION

In the present state of our knowledge, a specific microbe etiology for neoplasms is unacceptable, nor is it possible favorably to consider the relation between fungi and tumor growth so strongly urged by Greco; [17] the more recent evidence of microbic influence in malignancy, presented by Young,[18] more conservatively by Robertson,[19] and by Nuzum,[20] cannot be ignored. Cancer arising in lupus of skin, nose or larynx, associated with or in tuberculous lungs [21] and buccal cancer, notably lingual epithelioma, and rectal malignant disease, following, associated with, or more probably superposed on lesions of tertiary syphilis, must be recalled. Though few would go as far as Palacio,[22] who believes that cancer is usually preceded by syphilis, the tendency to ignore syphilis as a factor in malignancy is too extreme; its relation to cancer of the tongue presented by that master of syphilology, Jonathan Hutchinson, a half century ago, has been supported by Butlin, Bland-Sutton and many others, indeed, by all careful clinical observers [23]; Power,[24] Bloodgood [25] and others [26] have wisely insisted on the added influences of individual susceptibility and particularly of irritation. Teeth were bad centuries before lingual cancer became frequent; syphilis does not appear to have added much, but syphilis plus irritation, particularly tobacco, mark the notable increase, to such an extent that Power thinks that as women now smoke they, too, will suffer. In Bloodgood's [25] compilation of 160 cases of lingual disease, smoking could be excluded in only two.

My thought is that the infection bears an etiologic relation becuse it is manifested by a reaction of irritation and not because there is what, under other conditions, might be regarded as any specific connection between the tubercle bacillus, the spirochete, blastomycetic fungus, various diphtheroids, cocci or other organism, and the new growth. In a manner resembling, but clearly quite different, the micro-organism in some way liberates one or more toxic substances which irritate, frustrate repair, and lead to a lawless cellular proliferation similar to that following the continued irritation produced by soot, tar, pitch, paraffin or other substances possessing allied possibilities, and the irritation accompanying certain animal parasites. In this connection it is interesting to note that no infective process exclusively or even largely suppurative tends to tumor formation. The cytologic reaction in purely suppurative lesions, such as abscesses, is not reparative; it is protective. Repair follows; and only when repair is constantly frustrated does the tendency to neoplastic evolution become manifest. It seems clear that many tumors result from disturbances of reparative processes. The relation may be immediate or remote; surely all are agreed that keloid may be so designated; the phenomena of repair in a severed nerve and the evolution and structure of amputation neuromas indicate the relation. Masson [27] has studied ten neuromas in inflamed appendixes; Gretsel,[28] recognizing that in the greatly disturbed area of the repairing stump the tendency to neuroma production is highest, goes so far as to suggest excision of a segment of the nerve above, thereby forestalling attempted neurogenesis in the amputation wound. Nassetti [29] has presented a study of sarcomas in scars, especially those following war wounds.

CANCER AS RESULT OF PROLONGED IRRITATION

Hamilton [30] has fully reviewed our knowledge of so-called anilin tumors of the bladder. Curschmann compiled 177 cases. Hamilton cites evidence to show that irritation must be prolonged from two years (the shortest on record) to thirty years, the average exposure being nineteen years. It is interesting to note that bladder tumors in dye workers appear earlier in life than is usual for vesical growths. As in roentgen-ray cancer, the tumor may develop long after exposure to the exciting cause has ceased. Luenenberger records an instance in which a man worked in dyes seven years, developed cystitis, transferred to another

11. Kazama, Y.: Gann **15**: 22 (Aug.) 1921.
12. Fibiger, cited in Experimental Production of Tar Cancer, editorial, J. A. M. A. **77**: 127 (July 9) 1921. J. Cancer Res. **4**: 367, 1919. Wood: Proc. New York Path. Soc. **21**: 122, 1921. Fibiger and Bang: Hospitalstidende **64**: 51, 1921.
13. Kopsch: Die Enstehung von Granulationsgeschwulsten und Adenomen, Karzinom und Sarkom durch die Larve der Nematode Rhabditis pellio, Thesis, Leipzig, 1919.
14. Bullock and Curtis: Proc. New York Path. Soc. **20**: 149, 1920, with references to earlier observations and experiments, and interesting discussion. Bullock, Curtis and Rohdenburg: Proc. Soc. Exper. Biol. & Med. **18**: 29-30, 1920.
15. Fibiger: Compt. rend. Soc. de biol. **83**: 321, 692, 950, 1160, 1920.
16. Fabre-Domergue: Ann. micrographie, 1892, pp. 49-67, 97-110, 145-164, 221-236, 579-587, 603-614.
17. Greco, N. V.: Origine des tumeurs (Etiologie du cancer, etc.) et observations de mycoses (blastomycoses, etc.) Argentina, Buenos Aires, 1916.
18. Young, J.: Edinburgh M. J. **27**: 212 (Oct.) 1921.
19. Robertson: Brit. M. J. **2**: 929, 1921.
20. Nuzum, J. W.: Surg., Gynec. & Obst. **33**: 167 (Aug.) 1921; discussion, p. 205.
21. Harris: J. M. Res. **28**: 471, 1913.
22. Palacios: Presse Med. Argentina **6**: 33, 1919.
23. Lydston, G. F.: Am. J. Surg. **29**: 33 (Feb.) 1915.
24. Power, D'Arcy: Brit. J. Surg. **6**: 336 (Jan.) 1919.
25. Bloodgood, J. C.: Cancer of the Tongue: A Preventable Disease, J. A. M. A. **77**: 1381 (Oct. 29) 1921.
26. Separate papers by Sebileau, Vallas, Ferrand and Fernet: Bull. méd., Paris **33**: 617, 627, 629, 632, 1919, dealing with several phases of cancer of the tongue; Ferrand's paper is on the early diagnosis; Fernet discusses the semeiologic value of leukoplakia.
27. Masson, P.: Lyon chir. **18**: 281 (May-June) 1921.
28. Gretsel: Zentralbl. f. Chir. **47**: 1395, 1920. Consult also suggestions of Huber, G. C., and Lewis, Dean: Amputation Neuromas, Arch. Surg. **1**: 85 (July) 1920.
29. Nassetti, F.: Tumori **8**: 1 (April) 1921.
30. Hamilton, Alice: J. Indust. Hyg. **3**: 16 (May) 1921.

department two years, left the factory, and two years later developed blood in the urine and was operated on for bladder tumor. Schwerin reports cases in which tumors appeared from eight to twenty years after the patients left the factory. The nature of the active body is unknown; one may infer from Hamilton's review that she might believe that arsenic is the factor. A most inferesting fact is that the chemical agent passes the barriers to its absorption and presumably through the excreting cells of the kidney, and finally exerts its action on the mucosa of the bladder; that the other structures appear to escape is most suggestive of some cytochemic electivity of action, the contemplation of which must arouse all sorts of speculation as to the possibility of such activity of this and other substances on other organs, particularly on secreting or protecting cells. The protracted latent period, and the fact that contact with dyes may have long ceased, recall those instances of smokers' cancer that appear after the habit has been discontinued.

For inducing malignancy usually prolonged, chronic irritation is necessary, but many exceptions occur; Ophuls [31] recalls to us that an indeterminable percentage of tumors follows a single injury—sarcoma more frequently than carcinoma; but he also includes a few benign growths, such as fibroma, chondroma, osteoma, lipoma and neuroma; the latter, he says, is always traumatic and is not true tumor. Dr. Ellis permits me to refer to a patient in St. Agnes Hospital who received a cinder burn on the cheek in what was supposed previously to have been healthy skin; after two weeks the excised lesion was clearly epitheliomatous. According to Hazen,[32] cancer resulting from burns shows a greater tendency to metastasis than most other cutaneous epithelial neoplasms due to other causes; he presents a study of thirty-seven squamous-cell growths arising in precancerous dermatoses; of ten basal cell cancers, six arose in ulcers and one in the scar of the burn. Mishell [33] reports cancer of the hand following a sulphuric acid burn. Møller [34] records sarcoma of the eye, the part first removed containing a splinter; the tumor recurred and later developed local and distal metastases; the injury preceded the tumor by two or three months.

A physician, approaching 60 years of age, of massive proportions, for many years weighing 280 pounds (125 kg.) and over, a profuse sweater, found, after a heated period in July, several small warts distributed on the back, along the lines subjected to suspender pressure and friction. Although a man of the cleanliest habits, he could not satisfactorily cleanse his back; almost constant moisture, most marked and most abundant and persisting longest under the suspenders, a recognizable excess of oily matter in the perspiration, and the friction of clothing resulted in irritation. Near where the suspenders crossed, just under the leather part, the lesions were more conspicuous, more inflamed and at times bled. With scissors, curved on the flat, the small warts were clipped off and the bases touched with iodin; suspenders were discarded, and the back bathed daily with 60 per cent. alcohol. No excrescent papillomas returned. Two that had been rubbed off, leaving ulcerating areas from 0.25 to 0.5 cm. in diameter, the larger just under the crossing point of the suspenders, took on the appearance of rodent ulcers. I have no doubt that they became indolent basal-cell epitheliomas. Dr. William M. Sweet gave a number of roentgen-ray treatments, after which the areas healed promptly; although the patient lived twelve years after the incident, there was no recurrence.

31. Ophuls, W.: California State J. Med. **19**: 54 (Feb.) 1921.
32. Hazen, H. H.: Cutaneous Cancer of the Extremities, J. A. M. A. **55**: 837 (Sept. 4) 1915.
33. Mishell, D. R.: A Case of Cancer Following a Sulphuric Acid Burn, J. A. M. A. **73**: 1936 (Dec. 27) 1919.
34. Møller: Ugesk. f. Læger **83**: 1239, 1921.

No reasonable doubt of the cancerous nature of the ulcerative process, or or irritation as the cause, can be entertained. Almost surely excision would have been safer and more certain, and in every way preferable; however, the patient's disinclination to consider an operation swayed opinion, and good fortune favored healing without further trouble.

Often irritation may be of a recurring type or may act over a long period:

A man having a large congenital angioma involving the chin, lower lip and cheek came to the Jefferson Hospital at irregular intervals on account of recurring irritation from shaving, and uncleanly habits, soiled rags having been used to remove dripping saliva. As no surgeon would promise excision of the large congenital but extending angioma without danger to life and without resulting deformity, the patient declined operation; for more or less prolonged periods inflammation and irritation would disappear and then recur; finally, however, after about fifteen years, the patient returned with such extensive epitheliomatous evolution that operation could promise no relief.

Wyeth [35] reports an epithelioma of the hand in a patient, aged 58, following a series of injuries, infections, inflammations and ulcerations that had passed through various stages of evolution, finally becoming epitheliomatous, and requiring radical treatment about forty-seven years after the initial injury; the diagnosis at various times had been erysipelas, elephantiasis, tuberculosis, warts, syphilis and finally cancer. This tendency of chronic cutaneous irritation and ulceration to end in cancer has led English authorities to require factory and workshop inspectors [36] to report all cases of persisting ulcers among workers; in addition to the irritative and ulcerative manifestations noted above, they also include the inflammatory and necrotic process attributed to irritation by chromium salts used in the industries, conditions called chrome holes, chrome ulcer, chrome eczema and allied processes, and it is noted that after the age of 35 years the tendency to epitheliomatous transformation is greater. Bowen,[37] among these precancerous dermatoses, includes Paget's disease of the nipple, xeroderma pigmentosum and keratosis senilis. Lynch [38] reports a relatively rapid epitheliomatous evolution in a pellagrous ulcer; even oriental sore may assume the histologic appearance of epithelioma.[39]

Not only do irritative reactions, long continued or otherwise, lead to cancer, but it is equally important to recognize that benign processes, such as warts and moles, may be transformed into highly malignant growths by acute trauma or more prolonged injury. Levin [40] has found that a certain amount of previously induced irritation increases the incidence of takes when Flexner-Jobling tumor is implanted in the testicles of rats, and Nuzum [20] has shown that trauma makes more active the growth of the transplantable tumor with which he experimented; in other words irritation increases susceptibility, incidence and growth; my hope is that this article contains satisfactory evidence that chronic inflammation and irritation actually induce malignancy.

35. Wyeth, G. A.: New York M. J. **114**: 685 (Dec. 21) 1921.
36. London Letter, J. A. M. A. **74**: 405 (Feb. 7) 1920. Brit. M. J. **2**: 852 (Dec. 27) 1919. Abstract of Literature of Industrial Hygiene **3**: 1, 1921.
37. Bowen, J. T.: Precancerous Dermatoses, Arch. Dermat. & Syph. **1**: 23 (Jan.) 1920. S. E. Sweitzer (J. A. M. A. **69**: 179 [July 21] 1917) records thirty-three of forty-three skin cancers due to precancerous dermatoses or chronic irritation; some were due to acute injury. In the discussion, Lain states that epithelioma of the inner canthus of the eye is due to attempts to remove dust and other foreign particles, obviously both, and the usual methods of removal are irritants.
38. Lynch, K. M.: J. Cancer Res. **2**: 77 (Jan.) 1917.
39. Macadam, W.: Brit. J. Surg. **7**: 487 (April) 1920.
40. Levin: J. Exper. Med. **15**: 163, 1912.

IRRITATION AND CANCER IN ALIMENTARY CANAL

Nowadays, nobody doubts that cancers of the stomach and duodenum frequently are preceded by peptic ulcer. Many surmises have been put forth as to the frequency of the relation; but, as MacCarthy [41] has stated, exact percentages can never be given. Accurate information as to the cause of gastric ulcer may not be at hand; that hot drinks, infection (syphilitic and otherwise), circulatory disturbance (embolism), acute or chronic gastritis, secretory abnormality, vagus or other nerve disturbance, trauma, pyloric delay, and allied influences, may be factors, is suggested, and in each of these irritation occupies a prominent place. Practically all treatment, medical and surgical, as directed toward cure of the chronic type, is based on recognized irritation either as a cause of the ulcer or as a cause of delayed healing and consequent malignancy, or of both. Papillomatous proliferations are not infrequent about gastric hair balls and string balls, and though gastric cancer in mice is exceedingly infrequent (two squamous of the cardia, one tubular of the pylorus, in 16,000 necropsies on mice), the one pyloric growth observed by Slye [42] and her co-workers apparently resulted from a hair ball in the stomach. Cancer of the intestine is also rare in mice; the one case observed in Slye's stock arose in a chronically prolapsed rectum, in which, of course, chronic irritation was present. Stasis, foreign bodies and other factors make irritation and inflammation almost constant factors in gastro-intestinal diverticulosis; Mellon, Soble, and Davidson and Fowler [43] insist on the frequent origin of cancer in such cases. According to Goldstein,[44] there are on record 325 cancers and seventeen primary sarcomas of the appendix; the symptoms are those of recurring or chronic appendicitis. There is something interesting and suggestive in the occurrence of cancer in the alimentary canal in areas particularly liable to irritation—the lip, tongue, pyloric and duodenal segment, appendix and cecum, sigmoid and rectum; intervening portions are primarily involved.

Some years ago, Dr. D. Braden Kyle brought to my attention a middle-aged man [45] with cancer of the tongue, histologically diagnosed:

> The man was a slater, and while at work habitually carried nails in his mouth from which, by the skilful use of his tongue, he delivered nail after nail, head-on, as needed; the ovoidal cancerous mass, centrally located, marked the area subjected to pricks and other irritation, to which, possibly, may be added some chemical action exerted by the metal.

Lathers' cancer of the tongue has been described but, in a somewhat careful review of literature, I have not encountered the reports.

> A middle-age woman of fine physique, apparently in perfect health, negative family and personal history, began to take on fat; disinclined to give up rich foods and more or less sedentary habits, she decided on active purgation. The patient told me that she took from 2 to 4 ounces (60 to 120 gm.) of Epsom or Rochelle salt daily—had taken "loads" of it, to use her words, sometimes using cascara and compound cathartic pills as substitutes or in addition, especially when the scales did not satisfy her desire to reduce. She lost some weight, probably only a few pounds, but was gratified to find the tendency to gain apparently under control; she was abnormally sensitive on the subject of weight, and concealed the fact that she was subjecting herself to active, even violent, purgation, usually complaining of severe, unrelievable constipation. After several months, considerable pain in the lower abdomen appeared, at first mildly annoying, later, at times, severely so; facts as to her general health are not accessible, but some weeks, possibly two or three months after she last spoke to me concerning her "reducing" treatment, and somewhere about two years after its inauguration, the patient consulted Dr. Bloodgood in Baltimore. Exploratory incision disclosed an inoperable cancer of the sigmoid.

Of course, proof of causative relation between the violent purgation and the evolution of the cancer is inconclusive; but, surely, knowing as we do how frequently rectal irritation, diverticulitis and allied factors precede cancer in these parts, it is no far cry to the assumption that repeated or long continued, often violent purgation and obstinate constipation, are not without danger.

MULTIPLE CANCER DUE TO IRRITATION

Roentgen-ray cancer surely must be regarded as an irritation reaction. Three Philadelphia roentgenologists, all medical men, have died of cancer; I have examined specimens from each case; two of the patients were repeatedly operated on in the Jefferson Hospital, and the specimens removed have been carefully studied in our laboratories. Each manifested the usual features of this disease; to one, a heavy smoker, I wish to refer particularly:

> While the initial, so-called precancerous, phenomena were evolving on a finger and probably on the dorsum of the hand, the lower lip, near its center, assumed the appearance of early epithelioma. Dr. John H. Gibbon and I urged excision, to which the patient consented. Dr. Gibbon removed the usual wedge-shaped piece about six weeks after the appearance of the lesion; histologically, the superficial changes were hyperkeratinization, papillomatous excrescences, a very slight basal infiltration and noteworthy overgrowth of the rete; no one could doubt the definitely cancerous nature of the condition.[46] There was no recurrence of the labial growth, and not until ten years later did the roentgen-ray cancer complete its course, which passed through local evolution, axilliary lymph-node invasion, repeated operation, recurrence, and finally pulmonary metastasis which caused death.

An interesting fact in this case lies in operative cure of one cancer in a person having another, both new growths, due to irritation by apparently—at least to the best of our knowledge—two entirely distinct irritants. The history indicates a rather marked predisposition on the part of the patient to malignancy; nevertheless, a cure resulted in one area when all the cancerous and potentially cancerous tissue was removed. My memory is that he never discontinued smoking.

CANCER OF BREAST

Probably with regard to no organ more than the mamma have controversy and uncertainty reigned relative to the influence of injury in the evolution of neoplasms and especially of malignant disease. Some have regarded clearly established injury as incidental, not causal; cases in which cancer developed in an area subjected to stay-pressure [47] (traumatic mastitis), the

41. MacCarty (W. C.: Am. J. Roentgenol. **7**: 451 [Sept.] 1920) summarizes his views and gives references to seven publications by the author and his colleagues, based on study of 507 simple chronic ulcers and 895 carcinomatous ulcers. Urrutia: L.: Arch. Españ. de Enf. d. Ap. Digestivo **2**: 579, 1919. Mayo, C. H.: Carcinoma Developing on Gastric Ulcer, J. A. M. A. **77**: 177 (July 16) 1921.

42. Slye, Maude; Holmes, Harriet F., and Wells, H. G.: Tr. Chicago Path. Soc. **10**: 209, 1917. Fuller report in J. Cancer Res. **2**: 401 (July) 1917; literature. Ibid. **6**: 57 (Jan.) 1921.

43. Davidson and Fowler: Surg., Gynec. & Obst. **32**: 177 (Aug.) 1921, Mayo, W. J.: Diverticulitis of the Large Intestine, J. A. M. A. **69**: 781 (Sept. 8) 1917.

44. Goldstein, H. I.: Am. J. M. Sc. **161**: 870 (June) 1921; literature given.

45. The patient was a brother or brother-in-law of a physician; should this report come to the attention of any one familiar with the case, I would be grateful for further details.

46. It is shown in Figure 147, p. 321, of my Manual of Pathology, Ed. 5.

47. Cheatle: Brit. M. J. **1**: 492, 1911.

production of tar sarcoma [48] in the mamma of the rabbit and the constant histologic evidences of chronic irritation, involutional changes, chronic mastitis, so-called cystic disease of the breast,[49] and irritative, reactionary or inflammatory disease of the nipple and ducts are ignored. We are asked, what is the injury or what is the nature of the irritant? In most instances we do not know. However, every student of morbid histology who has examined these organs in early cancer, or both mammae when only one was cancerous, knows that evidences of irritative reaction are almost if not quite constantly present and as indubitably defined as the reactionary lesions seen in the tongue, lip, cervix, prepuce, vulva, etc., when irritated and becoming cancerous.

Paine [50] and Clare [51] believe that carcinoma is induced by irritation and inflammation, and it is further held that cancerous mammae in man and mice are always inflamed, an opinion which I share. Forgue and Chauvin [52] found history of trauma more frequent than heredity in melanic cancer of the male breast. All the evidence seems to me conclusive that the reactions preceded the cancer, and that irritation as a factor cannot be disregarded. Although he is surely right, I do not know what percentage of surgeons agree with Bloodgood [53] "that the complete removal of the breast is a definite protective procedure in certain nonencapsulated lesions of the breast which may be included under the terms chronic mastitis." Then you would excise all chronically inflamed mammae? Not at all, but subject every one to the most careful scrutiny and to discriminating examinations by men of experience, men who know their morbid anatomy, at least that of the breast, and realize their fallibility—these are the safest.

Again, it is to be recalled that in all probability some of these breasts are potentially cancerous—sure to develop cancer—even though the microscope may not disclose the fact. The demonstration of this truth by Murray and Woglom in experimental cancer, referred to elsewhere in this article, is of the utmost importance in our effort to interpret many facts with regard to cancer. In addition to the admitted clinical and histologic evidence that injury may be a factor in the production of mammary growths, legal opinion may also be cited; damages have been assessed [54] on the recognized relation.

HODGKIN'S DISEASE

Many observers look upon Hodgkin's disease as an infection. Whether one accepts the infective agents suggested by Sternberg, by Fraenkel and Much, by Bunting and Yates, or possibly some other organism, there is much to indicate that primarily the process may be of the nature of an infective reaction; but many cases, sooner or later, manifest such definite neoplastic characters (visceral metastasis, nodes in kidney, lung and liver) that their sarcomatous nature appears obvious. Assuming that it may have an infectious beginning, the interpretation would be that the irritative reaction induced by the organisms eventually converts cells, that primarily arose as a part of a reaction to infection, into cells that took on the attributes of malignancy, for example, as we understand that process in clearly recognized sarcoma. Such a possibility explains those instances in which improvement follows the application of vaccines, operation, the roentgen-ray, radium and possibly arsenic or other medication, and later the process appears to relapse or recur with evidence of greatly enhanced malignancy; the latter condition or stage has been termed Hodgkin's sarcoma, as distinguished from the earlier, possibly distinct manifestation called Hodgkin's granuloma. There are good reasons for asserting some essential difference between the two groups of cases or the two stages of the process, no matter what view one holds as to the explanation. Those who have seen many cases of Hodgkin's disease have recognized these striking differences, and Yamasaki, Levin, Mueller [55] and others have written with various views as to the nature of the transformation.

IRRITATION AND CANCER OF VULVA, UTERUS, ETC.

I have talked with no experienced gynecologist who did not believe that childbirth, erosion, ulceration or other form of injury or chronic irritation was the usual antecedent of cancer of the cervix uteri. More than twenty years ago, Cullen [56] recognized the relation. Ewing [57] states that the earliest cervical carcinoma that he has seen arose in chronic erosion; a few early excisions that I have seen fully support this view; Eden and Lockyer [58] describe the transformation of erosions into epithelioma. A common belief that erosions are simple ulcers is probably erroneous; it is not unlikely that they are neoplastic, as stated by McCann. Polak [59] records cancer of the cervix after supravaginal hysterectomy, notes that cancer of the cervix occurs in 2 per cent. of uterine fibroids, and thinks that complete removal of the organ should be practiced in all such operations when the cervix has been traumatized by childbirth, or is eroded, or otherwise irritated. Soubeyran and Peyron [60] have reported cancer of the uterus developing about a foreign body left in the organ twenty-two years. The experimental production of uterine cancer in animals by the injection of scarlet red oil has been asserted [61] but not fully verified. The only primary epithelioma of the female urinary meatus in my experience was preceded by evidence of long continued irritation. Keratoses, leukoplakic vulvitis, and other evidences of indolent inflammation practically always precede cancer of the vulva; Taussig [62] believes that cessation of ovarian function is also a factor.

OTHER IRRITATION CANCERS

Cancer of the gallbladder or bile ducts with cholelithiasis, and cancer of the urinary bladder with vesical calculi, are other illustrations of irritation cancer.

48. Yamagiwa, Suzuki and Murayama: Mitt. a. d. Med. Univ. Tokyo **25**: 189, 1920; photomicrographs of neoplasm.
49. Ellis: Publications from the Laboratories of the Jefferson Medical College and Hospital **1**: 1904; Ann. Surg. **38**: 336, 1903. Syms, Parker: Evolution of Cancer of the Breast, J. A. M. A. **69**: 454 (Aug. 11) 1917; bibliography.
50. Paine, A.: Lancet **2**: 693 (Oct. 2) 1920.
51. Clare, T. C.: Lancet **2**: 1298 (Dec. 25) 1920.
52. Forgue, E., and Chauvin, E.: Rev. de chir. **57**: 1 (Jan.-Feb.) 1919.
53. Binnie's Regional Surgery **1**: 584, 1917. Those who do not see a relation between chronic breast lesions and mammary cancer should read this admirable presentation. Lukowsky: Deutsch. Ztschr. f. Chir. **167**, 1921.
54. Irritation of Tumor Necessitating an Operation, J. A. M. A. **77**: 642 (Aug. 20) 1921.
55. Mueller, T.: J. M. Res. **42**: 325 (June-Sept.) 1921; literature given.
56. Cullen: Cancer of the Uterus, New York, 1900, p. 651.
57. Ewing, James: Neoplastic Diseases, Philadelphia, W. B. Saunders Company, 1919, p. 526.
58. Eden and Lockyer: Gynaecology, London, 1920, p. 524.
59. Polak, J. O.: New York State J. Med. **21**: 45 (Feb.) 1921. Other observers may be consulted in discussion on Precancerous Uterus, Section on Obst. & Gynec., Roy. Soc. Med., Oct. 9, 1919; Brit. M. J. **2**: 530, 1919. McCann: Proc. Roy. Soc. Med. **13**, Section on Obst. & Gynec., p. 3, discussion, p. 9.
60 Soubeyran and Peyron: Gynec. et. Obst. **1**: 4, 1920.
61. Yamagiwa and Ohno: Gann **12**: 3, 1918. The Experimental Production of Cancer, editorial, J. A. M. A. **76**: 1404 (May 21) 1921.
62. Taussig, F. J.: Precancerous Lesions of Skin of Vulva, Arch. Dermat. & Syph. **1**: 621 (June) 1920.

Irritation is recognized as a factor in production of papilloma of the vocal cords in singers and speakers; it is also known that papilloma may follow war gas injury; my colleague, Dr. Chevalier Jackson, permits me to mention two cases of laryngeal papilloma developing in gassed soldiers; he knows of another case in the literature; the tendency of laryngeal warts to become cancerous is well known, and no doubt continued irritation facilitates the transformation.

There is evidence that intrinsic structural changes, benign growth, goiter, inflammation, calcification and allied processes in the thyroid may be followed by malignant disease.[63]

It is believed that solar irritation may be a factor in the production of cutaneous cancer;[64] as many as eleven skin cancers in the production of which sunlight was believed to be active have been seen in one patient.

So long ago as 1814, Hey in England and Roux in France noted the influence of irritation in the production of preputial and other forms of penile cancer, a fact now universally conceded; DaCosta, Chetwood and also Wolbast[65] have noted the infrequency of penile cancer in Jews. Barney found phimosis in 85 per cent. of one hundred cases of penile cancer. Bashford attributes the new growth to accumulated secretion, uncleanliness and consequent irritation; he also observes that cancer of the penis is unknown among Mohammedans. I have never seen cancer of the penis in a patient in whom there was no phimosis or other local impediment, and whose habits were those of scrupulous cleanliness. My colleague, Dr. H. R. Loux, concurs in this view and, so far as we can recall, we have never seen cancer of the penis in a Jew who had been properly circumcised. Dr. Loux has seen cases in which incomplete freeing of an adherent prepuce has been followed by cancer; really these are cases of phimosis by adhesion with possibilities not unlike those incident to narrowing, either congenital or acquired.

A relation between cancer of the lung and forms of irritation has long been known, but the more recent studies of Margaret Uhlig[66] with regard to lung cancer, attaining epidemic proportions among workers in cobalt mines of Saxony, more vividly brings to mind the probability that some pulmonary malignant neoplasms arise on a basis of irritation. Schmorl is quoted as believing that lung cancer is unusually frequent about Dresden, and attributes the incidence to the influence of sandstone industries on workers. Winternitz has shown that the reparative processes following the introduction of hydrochloric acid into the bronchi may give rise to histologic appearance resembling cancer. Moise[67] has adduced further evidence in favor of the view that cancer of the lung may be due to bronchial irritation. My colleague Dr. Chevalier Jackson permits me to refer to a case of pulmonary carcinoma following the presence of a foreign body in the lung for more than thirty-five years, the patient coming to necropsy in the Jefferson Hospital.[68] Harris[21] presents part of the evidence of interrelationship between pulmonary tuberculosis and cancer.

63. Spiese and Brown: Ann. Surg. **74**: 684, 1921.
64. McCoy, J. N.: The Solar Keratoses and Cutaneous Cancer, Arch. Dermat. & Syph. **1**: 175 (Feb.) 1920. Montgomery, D. W., and Culver, G. D.: M. Rec. **100**: 625 (Oct. 8) 1921.
65. Literature cited is given by Wolbast, M. Rev. of Rev. **27**: 363, 1921.
66. Uhlig, Margaret: Virchows Arch. f. path. Anat. **230**: 76, 1921.
67. Moise, T. S.: Primary Carcinoma of the Lungs, Arch. Int. Med. **28**: 733 (Dec.) 1921.
68. Case reported by Drs. Edward Weiss and F. H. Krusen, J. A. M. A. **78**: 506 (Feb. 18) 1921.

LIMITATION OF HISTOLOGIC DIAGNOSIS

It is well for the profession to recognize that even the histologic diagnosis of malignancy has its limitations; laboratory men of large experience are thoroughly familiar with instances in which careful, even exhaustive, examination of numerous sections yielded no satisfactory result or led to a diagnosis that later seemed disproved by the clinical evidence. The best qualified and most conscientious histologist may not be infallible; errors incident to random sampling occur, and furthermore, it is fully established that there is a stage in malignancy during which a positive diagnosis by histologic examination is quite impossible. With regard to the first of these, no argument is necessary. Random sampling, examination of a single block or, still worse, a lone section or so with negative finding must be open to error. Gastric ulcers, only a part of which is epitheliomatous, are not uncommon; I recall an ulcer less than 0.5 cm. in diameter, excised from the tongue for diagnostic examination, only one area of which seemed cancerous. Several years ago a patient was admitted to the Maternity Department with a mamma that seemed clinically puzzling; a supposed abscess was incised, pus was obtained, some of the tissue was histologically inflammatory and enlarged lymph-nodes subsided; nevertheless there was an underlying cancer clinically suspected but not histologically demonstrable in the tissue examined. Dr. Gibbon sent me a mamma about which he was suspicious; he had removed the breast and axillary contents. Many blocks were examined before indubitable cancer was found; interrupted, serial sections of the auxiliary mass finally disclosed a lymph-node no larger than a grain of wheat, and not a large grain of wheat at that, in which implantation had occurred; I have no doubt that we have missed other infiltrations because busy routine rarely permits an exhaustive study of all specimens.

Every discerning student of cancer must have apprehended that reactions to irritation and other cell changes preceding cancer must be potentially malignant before it is possible, by means at present available, to demonstrate histologically the impending malignancy; a cell or tissue must be preparing, and finally must be prepared to infiltrate before the process is manifested. Murray and Woglom[6] appear to have placed evidence of this fact on a secure experimental basis, by transplanting into the experimental animal (autoplasty) small fragments of the irritated and reacting tissue, and at the same time subjecting other parts to histologic study. They have shown that fragments may grow, give rise to metastasis (visceral and otherwise) and kill when evidence of malignancy was not determinable in the sections examined from the area of primary irritation and growth; in other words, the process was potentially—really already—cancerous but not as yet histologically malignant. This enables me better to understand those instances in which biopsy yielded nothing indicative of cancer, although subsequent developments clearly proved that the process was malignant. Naturally, a cell has made necessary preparations to do a thing before it does it; histology rarely, if ever, tells us what a cell is going to do before it does it, although many of us are constantly deluding ourselves into the belief that we can deduce the future of a cell from a study of the past or present or both—it is possible to be right, but the practice is probably not a safe one. Often difficulty in reading aright what

is present makes one hesitate or feel very uncertain; much less can one tell what a cell is going to do when neither it nor any ancestor has yet done the thing in the particular case under investigation; the fact that other cells, in other cases, similarly situated, have followed certain or uncertain courses, may be suggestive, even helpful; but it offers nothing conclusively applicable in any other case.

APPLICATION TO PREVENTION AND TREATMENT

The practical application of our recognition of irritation as a frequent antecedent of malignant disease becomes obvious. It is not necessary to assume that there is a specific tumor excitant, cytologic, microorganismal or chemical, but that cancer often arises under influences the nature of which we cannot at present accurately define, but which tentatively may be termed irritative, fully recognizing how vague and unsatisfactory the designation must be. Fortunately, for practical purposes, this particular indefiniteness is no impediment to our understanding the application to prevention and to treatment. Every delay in the healing of any nonsuppurative process in which the normal tendency to repair is unduly prolonged, no matter where—skin, mucosa, lip, eyelid, tongue, stomach, intestine, rectum, bladder, mamma, vulva, uterus, prepuce or elsewhere—every irritated gland, wart or mole, becomes a source of suspicion; women, especially those who have borne children, must be impressed with the necessity for frequent and careful examination and that they must not await the appearance of symptoms; smokers must know the dangers. All are agreed that the general practitioner, the family physician, must be the disseminator of knowledge and the missionary to the masses; often he has known and been timid; occasionally, unfamiliar with advancing science, he has been a nodding sentinel; the few of this group must be awakened to their responsibilities.

The alarming increase in ignorant but aggressive cults must be controlled. Recently there came to my knowledge a patient with advanced inoperable cancer of the breast who contracted with a chiropractor for and received 100 treatments for "milk-cake"; she was given massage, "adjustments," rough manipulations that often brought tears; she developed spinal and other metastasis and endured hopeless torture through many months before death came to her relief. Hundreds of these cases could be compiled; they are known in every large clinic. The uneducated, deluded or malicious exploiters must be suppressed.

The phobia of cancer-phobia must be suppressed; the older of us recall how filtration of water supplies was fought because the propaganda injured the repute of cities and induced typhoid hysteria; but water filtration came and the very prints that opposed it became the most advanced and active advocates. Education in venereal prophylaxis is progressing. Education as to the dangers from malignant disease, now strongly promulgated by special societies—for example, the American Society for the Control of Cancer—must be continued and extended to national, state and county organizations, but most of all by the family physician and by the nurse; all state health agencies must be increasingly vigilant, and medical men brought in contact with industrial workers must constantly urge the dangers incident to many occupations. When possible, the lesions antecedent to cancer must be better known, and processes that may end in malignancy must be recognized early.

More than forty years ago, Billroth observed that cancer did not develop in the normal mamma; it is doubtful whether it ever arises in the absence of some antecedent lesion; often, as in the skin, such phenomena may be recognized, and it is equally likely that concentrated clinical and pathologic inquiry may lay these processes open to diagnosis in other tissues and organs as well as in the breast. These beginnings of malignant disease, even those processes that may precede it and constitute possibilities, must be better known and treatment directed toward potential dangers of cancerous evolution, if the best results are to be attained. Therein lies prevention, which here, as elsewhere, is far more promising than the best results attainable by any method after malignancy has fully developed.

A CASE STUDY OF INTERMITTENT CLAUDICATION (LIMPING)

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The disease with which this study deals belongs to a group that presents evidence of a peculiar neurovascular pathology. The symptoms throughout the group seem to be brought about largely by spasmodic contraction of some part of the vascular system—sharply intermittent, or more or less continuous. In intermittent claudication this spasmodic feature apparently plays an important part, whether the pathology of arteriosclerosis or obliterating endarteritis is demonstrable or not. Consequently, we find intermittent claudication discussed by some authors under arteriosclerosis; by others, among the angioneuroses. The latter include such conditions as Raynaud's disease, intermittent articular dropsy and scleroderma.

In the case I am presenting, the only evidence I found of vascular disease was a very moderate degree of sclerosis. Because of this, and other facts to be referred to later, my case in its present stage must be regarded as an angioneurosis or angiospasm.

The patient's history presents several salient points associated with intermittent claudication: He was a Jew; he was of middle age, 45; he had used tobacco and alcohol excessively over a period of twenty years. At one time in the whisky business, he used between a pint and a quart of liquor daily, but without apparent effect on his health, or ability to get on. These conditions we find emphasized as especially prominent in the etiology of the disease.

Four months previous to admission to hospital, on a day when he had been walking more than his custom (he had moved about mostly in an automobile), he noticed that his left leg "began to play out on him." It felt "draggy," numb and painful. He quickly discovered that if he rested for a minute or two, the tired feeling and discomfort would disappear and he could resume comfortable walking. He learned, however, that precisely the same lameness reappeared on covering so much as a distance of two city blocks. The brief rest would bring about relief, and on walking again the sense of discomfort would be repeated. This condition had persisted practically unchanged from the onset. The left arm had been similarly affected a number of times, the disability appearing first two months after symptoms were noticed in the leg. It was less severe in the arm, and the occurrence of attacks there bore no relation in point of time with attacks in the leg. More than ordinary exercise of the arm precipitated the symptoms there, and, as in the leg, rest brought quick relief. The patient had observed that leisurely exercise, such as playing billiards, did not induce the symptoms to anything like the same degree as continuous walking. Recently, after a busy day's work in his country store, the occasion being a

special sale, the leg became much more readily incapacitated and more painful, as did also his arm. There was a sensation in the leg as of jerking spasmodically without evidence of muscular motion. I was unable to learn whether or not this jerking sensation was synchronous with the beating of the heart. The patient had never been able to observe any change in the color of his leg or foot, either during or between the attacks. (Pallor or cyanosis of the extremity is frequent in the definitely sclerotic type of the disease.) Nor did I find on several examinations any change of color in the extremities affected. The patient had noticed that a clonus of the affected leg developed if it was raised in a flexed position when tired or during an attack.

The patient's abstinence from alcohol and tobacco since the onset of his trouble has made no appreciable difference in the symptoms. The man in his efforts to combat the disease took Turkish baths, massage and electricity twice weekly, practically since the onset. It is possible that the exercise tended to offset any good that he might have received from his other therapy.

The patient had a sallow complexion, was well nourished and was moderately bald. We found no anomalies of the viscera. A differential blood count gave normal results: hemoglobin, 80 per cent.; urine, normal; specific gravity, 1.012; phenolsulphonephthalein test, 55.9 per cent. in two hours; blood chemistry, normal; blood sugar tolerance, normal. Roentgen-ray examination of the aorta by Dr. J. F. McCollough was suggestive of a slight narrowing of the arch.

Erb regards the pulsation in the dorsalis pedis and posterior tibial arteries, especially the dorsalis pedis, as practically a pathognomonic symptom in intermittent claudication. In the case here reported, the pulsations in these vessels were much more reduced on the affected side, while they could be distinctly felt in the opposite leg. I emphasize this finding because I believe that it has an important bearing on the diagnosis in my case. The presence of this sign is definite indication of disease of the arteries of the affected extremity. Its absence would indicate the disease to be of an angioneurotic character. However, we must bear in mind that there is a spinal variety of this disease, as Dejerine [1] has pointed out, due to sclerosis of the vessels of the cord, in which the pulsations in the dorsalis pedis and tibialis are also unaffected. The fact that in our patient the pulsations on the affected side were distinctly lessened suggests the consideration that what appears to be a functional angiospastic condition may sooner or later develop into the definitely organic form.

Oppenheim,[2] who first separated the benign from the organic form of the disease, says that he "by no means excludes the possibility of the functional angiospastic form sooner or later developing into the organic form in accordance with our experience that an arteriosclerotic process or an obliterating endarteritis may develop from vasomotor disturbances." Oppenheim cites a case, apparently of the angiospastic type, in which gangrene developed after fifteen years. There arises also a suspicion as to the possibility of pyramidal tract sclerotic involvement, by reason of the clonus which has been mentioned.

It should be noted that the left radial pulse was weaker than the right, and there was a constant difference of ten points higher registry on the left side in the blood pressure of the upper extremities. There was also a difference of from twenty to twenty-five points in pressure, depending on whether the patient had been at rest for a day or so; the higher records were registered under fatigue and anxiety. The systolic and diastolic pressure range was between 120-85 and 164-105.

There was no change in superficial or deep sensibility or vibratory sense; superficial and deep reflexes were present and equal on the two sides, and were moderately active; there was no Babinski phenomenon; sensation for pain, temperature and pressure was good; the left palpebral fissure was slightly narrower than the right; there was slight flattening of the left side of the face; the pupils were 2.5 by 2.5 mm., slightly irregular, and limited in excursion to light; accomodation was good; the eye-grounds negative. The blood and spinal fluid were negative for syphilis. The patient had had a penile sore twenty-five years previously. There was no other skin lesion; syphilitic treatment was given for a few months at that time. Several years later he was married, and though his wife miscarried twice, there were two healthy living children. Dr. Adolph Koenig, who referred the patient to me, in the light of the probability of the existence of syphilis, administered potassium iodid and mercury for three months, and though well tolerated, it did not reduce the symptons.

During the last three weeks the patient had discontinued the baths, massage and electricity; under rest and a quieter mental attitude the attacks had become much less frequent, and he was able to walk greater distances without provoking the seizures.

In connection with this case it is interesting to note Bing's suggestion that a group of disturbances of considerable intensity, but of fleeting character, which have been considered as neuralgias are probably due to vascular spasms in the central nervous organs, or in their posterior roots. In this connection he mentions attacks in the limbs or in the region of the trigeminus, where there is an absence of pressure points along the nerves in question, and he reminds us of the spasmodic character of tabetic crises; also, when the spasm is of cerebral origin (the temporary paresis of an arm or leg, or temporary motor aphasia) he believes that the condition may be due to vascular spasm.

While it is true that intermittent claudication is a rare condition, there is reason for believing that a similar neurovascular pathologic condition may be responsible for a number of other diseases of obscure etiology more frequently than is generally understood. We have only to consider the manifold symptoms which are possible as a result of vascular spasm through the various portions of the central nervous system, as well as in the vascular supply of the body viscera, to realize the importance of this etiologic factor. As an example of a mechanism similar to that incident to intermittent claudication, we can mention the attacks of angina pectoris with its diseased coronary arteries. The various manifestations of angioneurotic edema strongly suggest a similar mechanism in the finer capillary arterial and venous systems. As a result of the localized edemas of an angioneurotic character occurring in portions of the brain or cord, we may have results simulating those of tumor, and it is not improbable that in some cases in which a tumor diagnosis has been made, and no tumor found, the cause has been one of angiospasm. Likewise, various neuralgias, migrainous attacks, and certain transient palsies, seem to have as their basis the ischemia and spasm which figure so prominently in intermittent claudication.

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1. Dejerine, in Bing: Nervous Diseases, p. 226.
2. Oppenheim: Text-Book of Nervous Diseases, Ed. 5, **1**: 587.

Appropriations for Ambulatory Sick.—A survey of 100 of the largest cities of the United States was made by the executive committee of the Medical College of Virginia to ascertain the amount of money being appropriated by them for the treatment of ambulatory sick. Sixteen cities were visited and questionnaires were sent to eighty-four, ten of which did not reply. Five of the cities that reported made no appropriations. The eighty-five cities on which the report was based, containing about one fifth of the population of the United States, gave an average per capita appropriation for this work of 13 cents. Forty-one cities reported an appropriation of less than 10 cents per capita.

THE AMOUNT OF OPIATES USED IN THE LEGITIMATE PRACTICE OF MEDICINE

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In all discussions of the narcotic question in the United States, no figures have ever been obtainable of the amount of opium and its alkaloids used in the ordinary practice of medicine. In the report of the Special Committee of Investigation appointed by the Secretary of the Treasury in 1918, on the traffic in narcotic drugs, it is said that the yearly consumption of opium in the United States for the period 1910-1915 averaged 491,043 pounds. It further says:

It has been stated that about 90 per cent. of the amount of these drugs entered for consumption is used for other than medical purposes. While this statement is probably extreme, a comparison of the per capita consumption in this country with that of other countries indicates that this country consumes from thirteen to seventy-two times as much opium per capita as is consumed by other countries, the records of which were available. The following table [Table 1] brings this out more clearly:

TABLE 1.—PER CAPITA CONSUMPTION OF OPIUM BY UNITED STATES AND CERTAIN FOREIGN COUNTRIES*

Country	Population	Total Annual Consumption Pounds	Consumption per Capita, Grains
Austria	46,000,000	3,000-4,000	½-⅔
Italy	33,000,000	6,000	1
Germany	60,000,000	17,000	2
Portugal	5,500,000	2,000	2½
France	40,000,000	17,000	3
Holland	6,000,000	3,000	3½
United States	92,000,000	470,000	36

* The population is that given for 1910.

As the average dose of opium is 1 grain, the amount consumed in the United States per annum is sufficient to furnish thirty-six doses for every man, woman and child. When it is considered that the greater portion of our citizens do not take a single dose of opium year after year, it is manifest that this enormous per capita consumption is the result of its use for the satisfaction of addiction.

Since the Harrison law requires a record to be kept in each hospital of the amount of opium and its alkaloids purchased and the amount consumed, it would seem possible, by calculating from the number of patients treated in the hospitals and the amount consumed, to obtain a fairly accurate idea of the amount of opium and its alkaloids used in the legitimate practice of medicine. From previous investigations it is known that from 2 to 2.25 per cent. of the population are sick in the year, and that from 18 to 23 per cent. of these patients are sufficiently ill to be in the hospital. On the basis, therefore, of 23 per cent. of 0.0225 per cent., that is, that 0.005175 per cent. of the population are hospital patients, one obtains an approximation of the amount of opiates used in the practice of medicine. If, therefore, without taking any account of the illness or the injury which brought the patient to the hospital, without discussing the therapeutics, and scattering the hospitals over a sufficient area in the United States to prevent local peculiarities from coming in, it would seem that a fair estimate can be obtained. This has been done, and the statistics here presented are from the records of hospitals for the years 1920 and 1921, and these hospitals are scattered from New England to the Pacific coast; from the populous Middle Atlantic states; from the Northwest and Great Lakes down the Mississippi Valley to the Gulf and the borders of Mexico, and along the Rocky Mountain states to complete the area covered. They are from hospitals dealing with general medicine and surgery; special hospitals devoted to the care of children and maternity cases; industrial hospitals of large industries, and hospitals caring for cancer cases, in which the use of the opiate is a necessity in large amounts; so that they comprise hospitals using a minimal amount of opiates, hospitals using a maximal amount, and large hospitals in general medicine and surgery using average amounts.

TABLE 2.—HOSPITAL PATIENTS

	No. of Patients	Grains of Morphin	Grains of Heroin	Grains of Opium	Grains of Codein
1920	412,196	148,448.22	11,708.12	109,073.76	176,438.89
Amount per patient	.....	0.3600	0.0281	0.2646	0.4280
1921	442,921	140,603.18	8,730.48	173,169.36	220,262.64
Amount per patient	.....	0.3174	0.0197	0.3909	0.4995
Totals	855,117	289,052.40	20,438.6	282,143.12	396,701.44
Amount per patient	.....	0.3387	0.0239	0.3277	0.4637

The intention, at the beginning, was to calculate only from hospital patients; but the statistics of some of the hospitals have made it impossible to separate hospital bed patients from the ambulatory dispensary patients. This seemed, at first appearance, a disadvantage; but on second thoughts it proved the reverse, as it gives the difference between the amounts used among all patients and the amounts used solely for bed patients. There is an interesting difference between the two in that the amounts of morphin, codein and heroin used are less among the dispensary patients, but the amount of opium is more per patient. This agrees with the rational therapeutics that one would expect to find for the morbid conditions usually presented.

In Tables 2 and 3 the variation between the two years is averaged up in the total. We see, therefore, that in caring for the hospital patients there is prescribed during the year an amount equivalent to giving each patient ⅓ grain of morphin, 1/42 grain of heroin, ⅓ grain of gum opium, and practically ½ grain of codein.

TABLE 3.—HOSPITAL AND DISPENSARY PATIENTS

	No. of Patients	Grains of Morphin	Grains of Heroin	Grains of Opium	Grains of Codein
1920	780,428	80,372.175	5,350.84	367,419.545	228,799.215
Amount per patient	.....	0.1030	0.0068	0.4607	0.2932
1921	920,494	115,372.03	5,129.46	383,691.257	295,288.91
Amount per patient	.....	0.1253	0.0059	0.4167	0.3208
Totals	1,720,922	195,744.205	10,480.30	751,021.302	524,088.125
Amount per patient	.....	0.1137	0.0061	0.4365	0.3045

In hospital and dispensary patients, we find necessary an amount equivalent to giving each patient about 1/9 grain of morphin, 1/164 grain of heroin, ½ grain of gum opium, and practically ⅓ grain of codein.

To obtain the amount of opium necessary to be imported into this country, we must translate these terms of alkaloids into terms of gum opium, and we must therefore consider for a moment the chemistry of their preparation. In every 100 parts of opium,

the U. S. Dispensatory states, there are 10 parts of morphin and 3/10 of a part of codein. Cushing gives 5/10 of a part of codein. We will use the 3/10, as it will produce a larger total, and we shall thus obtain an amply sufficient supply. The amount of opium required is therefore governed by the amount necessary to obtain the amount of codein used. Codein, moreover, is obtained from the mother liquor of opium after the morphin is crystallized out. If we, therefore, have enough opium to give us the codein, we shall have an excess of morphin. Heroin is diacetylmorphin, and is made by treating morphin with acetyl chlorid. Dionin, on the other hand, is ethylmorphin, and is made by the action of ethyl iodid in the presence of an alkali on morphin. The necessary amounts of dionin and heroin, therefore, are easily obtainable from the excess of morphin which remains after the demands in medicine are satisfied, since, as we have said, the opium used to obtain the codein contains thirty-three and one-third times as much morphin as codein.

In calculating, therefore, the amount of opium required on the basis of the amount of codein desired, we are amply providing for the alkaloids here mentioned and usually employed in medical practice.

Among the hospital patients, taking 0.4637 grain as the necessary amount of codein for each patient yearly, it must be equivalent to 0.3 per cent. of the total amount of opium required for each patient yearly, since gum opium contains 3/10 part of codein per hundred parts of opium. Each patient, therefore, will require 154.56 grains of opium yearly to make the necessary amount of codein. By adding to this 0.3277 of gum opium required as opium, we have 154.88 grains. If we add the maximal amount of gum opium as calculated for the dispensary patients of 0.4384, we get 154.99 grains. In either case it is practically 155 grains of opium that is necessary to produce the amount of codein plus the amount of gum opium necessary to obtain both gum opium and its alkaloids of codein, morphin, and the synthetic heroin and dionin. One hundred fifty-five grains of opium will give 15.5 grains of morphin; and as each patient in the hospitals requires, according to our calculations, only 0.3387 grain yearly, there will each year remain an excessive amount of morphin.

Two and twenty-five hundredths per cent. of all the population are sick in this country each year. At present, the population of the United States is given as being 106,000,000. Two and twenty-five hundredths per cent. of this number is 2,385,000. Multiplying this by the 155 grains for each patient and dividing the result by the 413 grains in an avoirdupois ounce, and again dividing that quotient by 16 ounces, we obtain 55,943½ pounds of opium. Opium is distributed medically in Troy ounces of 480 grains to the ounce and 12 ounces to the pound, but is bought in avoirdupois ounces of 413 grains to the ounce and 16 ounces to the pound. This is calculating on the basis of every one being as sick as the hospital patients. Taking, however, the amount required by the hospital and dispensary patients combined, which perhaps is a fairer estimate, we find that the amount of codein required is 0.3045 grain; and, adding the amount required of gum opium in the dispensary, 0.4365 grain for each patient, we have 101.9 grains for each person required to give the desired amount. Multiplying, therefore, the 2,385,000 patients by 102 grains, we find that 37,117 pounds will be required.

Thus, it is seen that the amount of opium required in the practice of medicine depends on whether we calculate by the amount of codein used only among hospital patients, or whether we calculate by the amount of codein required in hospital and dispensary patients together. Somewhere between 37,500 and 56,000 pounds is probably nearer the truth. Calculating from the 77 per cent. dispensary patients and 23 per cent. hospital patients combined, we have 23 per cent. of 2,385,000, or 545,550 patients as hospital patients, requiring yearly, at 155 grains for each patient, 12,796 pounds of opium, and 1,839,451 patients as dispensary patients requiring, at 102 grains each, 28,393 pounds of opium, or a total of 41,189. To assure an ample amount for even an increased demand of codein, 45,000 pounds of opium may well be considered an abundant amount of opium to be imported each year for medicinal use. This is less than one-tenth the actual amount now imported, and supports the statement of the Treasury Report on Traffic in Narcotic Drugs that 90 per cent. of the amounts of these drugs entered for consumption is used for other than medical purposes.

These figures do not include the practice of dentistry and veterinary medicine; but the excess of morphin obtained in making the codein beyond that required in the practice of physicians will be more than ample to supply the legitimate needs of the dentists and veterinary surgeons.

43 East Seventy-Second Street.

NONPARASITIC CYSTS OF THE LIVER

REPORT OF CASE

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Nonparasitic cysts of the liver are exceptional. Moschowitz, in 1916, found only eighty-three cases in medical literature.

There are two varieties: (1) Those which are usually associated with cysts of the kidney. These are always congenital, even when found in adult life. They are more common in females than in males, and are usually excessively numerous.

(2) Those not associated with cysts elsewhere. They are of all sizes, and may number from one to a dozen. A special variety of this group is the solitary hepatic cyst, such as found in the case here reported.

According to Allbutt and Rolleston, this is rare. The cysts occur at the free border of the liver, and have a thin strand of hepatic tissue over them. Bland Sutton, who reports one such case, suggests that these cysts probably form from the dilatation of bile ducts, which subsequently fuse and form the cyst. They are found only in women, and may be associated with tight lacing. In the two cases reported by Mayo, the cysts contained from a pint to a quart of clear fluid. In Bland Sutton's case also there was a quart (liter).

Multiple cysts are not amenable to surgical treatment. The solitary cyst may be treated by enucleation of its wall, as is done in hydatids. This, however, is difficult, and the hemorrhage is likely to be severe. Simple drainage is said to be adequate in most cases.

REPORT OF CASE

A white woman, 5 feet 4 inches (162 cm.) high, weighing 265 pounds (120 kg.), the mother of thirteen children, the

deliveries of all of whom had been normal, with negative personal and family history, was first seen in consultation three days prior to the operation. At that time she was complaining of vague upper abdominal pains, mostly in the epigastrium, and radiating to the right hypochondrium. There had been constipation and indigestion, but no attacks of acute pain. The patient was extremely obese, but even through her thick abdominal wall it was possible to feel a mass in the right upper quadrant, apparently the size of a fetal head. An umbilical hernia of small size was also present. The abdomen was otherwise normal. Operation was advised, and the patient was admitted to the hospital, March 27, and operated on the same evening.

A Mayo-Robson incision was made in the gallbladder region, and a mass, about the size of a grapefruit, which looked at first to be a greatly distended gallbladder, presented itself. The mass, however, arose from the lower border of the liver itself, and was lying in the gallbladder fissure. The liver substance of the right lobe was continuous with the anterior cyst wall. The posterior surface of the cyst was formed in part by the anterior wall of the gallbladder. The gallbladder was normal. The contents of the abdominal cavity were well walled off with large abdominal packs. The cyst was aspirated, and about 600 c.c. of clear fluid was removed. The cyst wall was then phenolated, as much as could be safely removed was excised, and the remainder was closed with a purse-string suture of No. 2 catgut, around a rubber tube drain.

The fluid removed was clear, colorless, and with a specific gravity of 1.006. There was a slight bloody sediment, but no sugar or albumin. Its reaction was neutral. The Rivalta test was negative. The Gram stain was negative. No tubercle bacilli were found. A careful search for hooklets, ova and parasites was made, but none were found. There was no growth on blood agar or plain boullion.

The umbilical hernia was also repaired.

The patient made an uninterrupted recovery.

COMMENT

1. Solitary nonparasitic hepatic cysts are extremely rare.
2. They are found only in women.
3. The diagnosis is only by inference, as they present no peculiar symptoms.
4. Simple drainage will usually effect a cure.

104 St. Charles Place.

HYPERTHYROIDISM IN CHILDREN BEFORE PUBERTY

REPORT OF CASE

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From a review of the voluminous literature in hyperthyroidism, one is impressed with the rarity of exophthalmic goiter in children before puberty, especially in children under 5 years of age. Of 3,477 cases compiled by Sattler, only 184 were in children under 15 years of age. In 1908, Schkarin found five cases in the literature. His patient, a girl, aged 4½ years, was the sixth. White, in 1912, reported a case of congenital exopthalmic goiter. Klaus, in 1914, reported a case of hyperthyroidism in an infant, aged 9 months, making a total of eight cases of hyperthyroidism in children under 5 years of age reported up to the present time. I have reviewed both American and foreign literature carefully for the last twenty years and find eighteen cases reported in children under 12 years of age. I find only two cases in which operation has been performed. My patient was six years old, the youngest one that has been reported as operated on.

REPORT OF CASE

History.—A white American girl, aged 6 years, admitted to my service, Jan. 25, 1921, complained chiefly of choking and dyspnea. The family history was negative. The child had a normal delivery. She had had measles and tonsillitis, but the history otherwise was negative.

The mother had noticed a goiter on the child's neck for the past year. Apparently it was growing larger. The child tired greatly when playing, and had to sit down and rest. She had choking sensations, palpitations, nervous, crying spells, apprehensions, hot and cold flashes, cold hands and feet, fainting spells, and memory lapses. There had been marked loss of weight in the last six months.

Examination.—The eyes reacted to light and accommodation; there was a slight lagging in following the finger, and a widening of the palpebral fissures. The tonsils were enlarged and cryptic; pus was expressed from the right tonsil. There was uniform enlargement of the thyroid gland, with mild trocheal tug. The heart was slightly enlarged. There were blowing systolic murmurs over the aortic area. There were pulsations in the neck. There was definite tachycardia. The radial pulse was 120 lying down; standing, 140. The lungs were resonant throughout. Breath and voice sounds were normal; there were no râles. There was marked tremor of the outstretched hands. The knee jerks were active.

The urine was normal. Examination of the blood revealed: leukocytes, 7,800; polymorphonuclear neutrophils, 68 per cent.; lymphocytes, 30 per cent.; large mononuclears, 2 per cent.; erythrocytes, 4,320,000; hemoglobin, 75 per cent.; coagulation time, four minutes; Wassermann reaction, negative.

A diagnosis of hyperthyroidism was made.

Treatment.—The child was kept in a quiet room at absolute rest in bed. Special attention was given to a nourishing diet, and the usual medical measures were employed for three weeks without any improvement. A tonsillectomy was performed. Both tonsils were cryptic and contained pus. There were no postoperative complications, and the patient was kept in bed for two months longer without any apparent improvement. We thought that the removal of the foci of infection in her tonsils, a probable predisposing cause of the hyperthyroidism, would lead to improvement in the toxic symptoms. Instead of improving, however, the child was gradually losing weight, and it was decided to operate.

Operation and Result.—Under gas-oxygen anesthesia, a collar incision was made. The infrahyoid muscles were separated and retracted, and the gland was exposed and delivered. Both lobes and the isthmus were uniformly enlarged, adherent and hypervascular. A partial thyroidectomy was done, removing three fourths of both lobes and the isthmus. After complete hemostasis the wound was closed in the usual manner without drainage. The child reacted well to the anesthesia, talking when returned to bed. She had no complications. Convalescence was smooth, and she showed daily improvement. The sutures were removed on the third day; the wound was clean. She was discharged from the hospital two weeks after operation, greatly improved.

Histologic examination of the specimens revealed hyperemia with increased vascularity, comparative absence of colloid, extensive cellular hyperplasia, and interstitial fibrosis. The pathologic diagnosis was exophthalmic goiter. The child gained weight steadily, and entered school. She kept her work up with the average child of her age. One year after the operation she had grown considerably and was enjoying perfect health. The pulse was 75, the heart was normal, and she was completely relieved of all toxic symptoms.

COMMENT

This is the only case of hyperthyroidism I have found in children before pluberty in the examination of several hundred goiter patients. Exophthalmic goiter in the young is a most serious condition. It may appear at an early age. C. H. Mayo had a marked case beginning at the age of 5 years; the patient was operated on at 7 with great benefit. Sawyer performed a single lobectomy on a girl, aged 10 years. The patient made an uneventful recovery. The pathologic diagnosis was colloid and exophthalmic goiter. These

two cases are the only ones I can find in the literature in which the patients underwent operation. My patient is the youngest that has had a bilateral resection for hyperthyroidism.

The ordinary physiologic enlargment of the thyroid gland seen at puberty must not be confused with this condition. The former is probably the enlargement of the thyroid gland, which takes place at this time of life to meet the needs of the body and is not attended by any symptoms of disease. Exophthalmic goiter, on the other hand, is a poisoning of the system by the excess of secretion. In such cases some form of medical treatment should be instituted to improve the condition; when, however, medical treatment is ineffectual, surgical treatment should be instituted before consequent terminal degeneration.

PERINEAL ABSCESS COMMUNICATING WITH URETHRA IN BULBOMEMBRANOUS PORTION

REPORT OF CASE SIMULATING EXTRAVASATION OF URINE *

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Extravasation of urine into the perineum, between the deep perineal (Colles') fascial and the superficial layer of the triangular ligament is of rather frequent occurrence, and requires prompt surgical interference to avoid gangrene and extensive sloughing, resulting often in a high mortality from shock and sepsis.

Rupture of the urethra occurs most often in the bulbomembranous portion—the fixed portion of the urethra. It is due to trauma, either direct trauma to the perineum, or to the indirect trauma from urinary pressure behind the obstruction of the urethra, usually stricture, which is the most common at this point. The extravasation extends forward along the bulb to the scrotum, and then upward under the abdominal fascia.

Given a history of sudden sharp pain in the perineum accompanying injury or strain, followed by marked difficulty of urination, or complete retention, the first thought should be rupture of the urethra. Bladder drainage should be immediately accomplished, either by urethral catheter or suprapubic puncture or cystotomy, and at the first sign of perineal induration or swelling, free incision should be made lateral to the bulb through the deep fascia.

Unfortunately, a majority of these cases are not seen until several hours after rupture has occurred and extensive extravasation has taken place. The case here reported of abscess formation under the deep perineal fascia, extending forward to the scrotum and upward under the abdominal fascia, simulates an extravasation. The roentgenogram illustrates the route taken from the bulbomembranous portion forward alongside the bulb and spreading in the region of the scrotum.

REPORT OF CASE

History.—K., a man, aged 49, admitted to the hospital, Feb. 6, 1922, complained of difficult, frequent and painful urination, with pain and swelling in the scrotum. The receiving staff made a provisional diagnosis of epididymitis. The onset of the symptoms occurred about four days before, and rapidly progressed to the stage of the severity noted. There was no history of injury or strain, with sudden pain and difficult or bloody urination. The patient admitted, however, that for one week previously he had been troubled with frequent urination, slight pain, and difficulty. He denied present or previous gonorrheal infection, although the urethral secretion contained pus and intracellular, gram-negative diplococci. When seen a few hours later, the patient appeared decidedly toxic. The temperature was 103.4 and the pulse 110.

On examination, the outstanding feature was the enlargement of the scrotum—about three times normal. There was edema, redness and tenderness, which extended upward, involving the right inguinal region, with redness extending to the costal margin. There was no discoloration of the scrotum or the surrounding tissues. The scrotum transilluminated well. The perineum was slightly swollen and tender. There was a slight sensation of fluctuation.

The patient was voiding a small amount of urine about every ten or fifteen minutes, with marked difficulty and pain. The urine was free from blood, but contained a large amount of pus. Attempts to enter the bladder by the urethra were unsuccessful.

A provisional diagnosis of perineal abscess with possible extravasation of urine was made.

Operation and Result.—Under gas-oxygen anesthesia, the bladder was opened suprapubically, and about 300 c.c. of foul urine evacuated. There was considerable infiltration of the structures beneath the abdominal fascia, but no extravasation of urine. Incision was made through the abdominal fascia, parallel with, and internal to, Poupart's ligament. A large amount of pus was evacuated. The patient was placed in the lithotomy position, and an incision made through Colles' fascia in the midperineum, lateral to the bulb. A large amount of pus was evacuated. Incisions were made through the fascia, and the dependent portion of the scrotum on both sides, and a small amount of thin, sero-purulent fluid seeped out.

There was an immediate drop in the temperature. The discharge of pus from the wounds rapidly decreased. All the wounds except the suprapubic wound healed on the fourteenth day, the patient passing some urine by the urethra. Le Fort sounds of 18, 20 and 25 caliber were passed with slight difficulty. On withdrawal, a considerable amount of pus escaped from the urethra. The urethra was injected with 50 per cent. sodium bromid, and a roentgenogram made. The perineum was again opened, and the cavity, noted in the roentgenogram, drained. The patient began passing urine by the urethra, all the urine being passed this way by the twenty-first day without difficulty. All wounds healed.

COMMENT

Interest attaches to this case principally in that we were able to visualize by a roentgenogram the urethral outline and the course taken by the abscess in its progress forward under Colles' fascia, which is identical with that taken by extravasating urine when rupture of the urethra occurs in the perineal portion. Abscess of this type occasionally occurs back of a urethral stricture, and is often complicated by extravasation of urine due to communicating slough into the urethra, the urine taking the line of least resistance, which is into the perineum rather than through the stricture. In this particular case this condition was not present, as there was at no time any urine outside the urethra, and the patient was passing urine by the urethra at the time the roentgenogram was made, which would indicate that the line of least resistance was through the urethra and not into the abscess cavity, and that the communication with the urethra was anterior to the cut-off muscle, the action of which prevented the bromid solution from passing into the bladder, thus diverting it into the cavity outside the urethra. The abscess probably began as an infection of a follicle of the bulb, or of Cowper's gland.

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* From the urologic department of the Kansas City General Hospital.

Clinical Notes, Suggestions, and New Instruments

A BEDSIDE TELEPHONE

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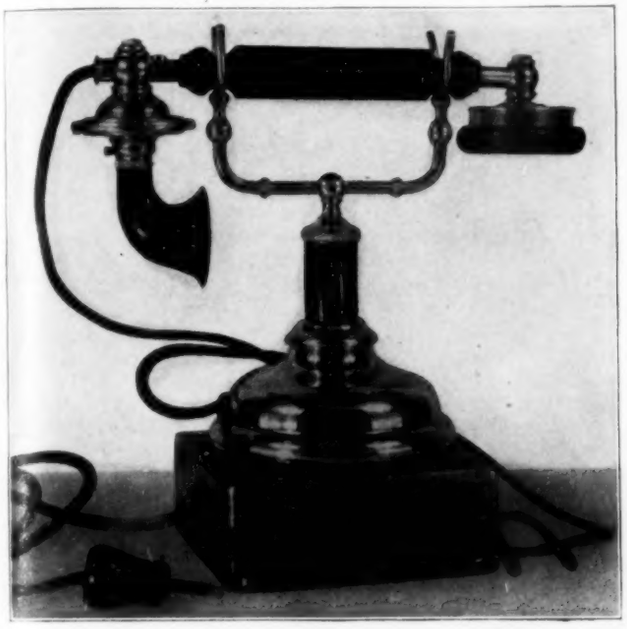
The oft repeated statement that we spend one third of our lives in bed is probably true for the average person. In that one third the average physician certainly has many telephone calls. The number, of course, depends entirely on the character of his practice. It does not apply to the city specialist,



Bedside telephone.

who sees to it carefully that his name is omitted from the residence list of the telephone directory. The man doing family practice, or emergency or industrial surgery, must literally sleep with his telephone. Before the World War I was for many years surgeon to a railway, light and power company. For ten years the telephone herewith illustrated was a source of great comfort and convenience.

It combines the bell in the base with the continental type of hand telephone, with the receiver and transmitter in one piece, and can comfortably be used with one hand without raising the head from the pillow. It is provided with a plug, to fit jacks in the bedroom, sleeping porch, library and breakfast room. It has the great merit of requiring only the self-contained bell for this variety of locations, and does not demand defacing the house with unsightly wall bells that ring when they are not wanted.

To patients in the hospital, the bedside telephone is often a great convenience. Short convalescences may be a source of comfort and entertainment for the convalescent. For the business man recovering from some surgical procedure, which keeps him in bed only because postural rest is necessary, the bedside telephone is something more than a matter of passing interest. It enables him to keep in touch with his business in an easy way that satisfies his mind, and lessens the urgency to get out of bed or go home sooner than the necessities of the case make advisable. In this way it is a valuable addition to our surgical therapeutics.

My own telephone was assembled. The upper part is an Ericson, which did not at that time have a bell. I had a bell box attached, which, however, was "foreign equipment," and quite against the rules of the Bell Company. After much argument I was permitted to use it as a sort of laboratory experiment, with the express understanding that it should not establish a precedent for its use by others

About this time I built a new residence just outside the city limits, and had it liberally supplied with jacks in the various sleeping and living rooms, and garage. There were twelve in all, and I paid for the equipment and installation. I knew nothing then about a service charge for jacks. It was only when pruning down overhead expenses at the time I went into military service that I discovered that I had been paying a service charge of twenty-five cents a month on each jack. In other words, for equipment which belonged to me I had paid the company about $300 for a supposed service that had not cost them one cent, as no repair had ever been required. The attention of public service commissions is invited to this. It must be a local rule of the Oregon commission. On a recent visit to Los Angeles I found twenty rooms at the Good Samaritan Hospital equipped with jacks, and the ordinary desk telephone circulating between them. The entire charge for this was one dollar a month, and no service charge for the jacks.

The Ericson phone is now made by the Federal Telephone and Telegraph Company, with the bell in the base, and recently the Western Electric has added a similar instrument to its output. That will, I fancy, do away with talk about "foreign equipment," and the medical profession, and then patients, may have an adaptable bedside telephone.

The attention of telephone companies is invited to the economic importance of this real need. The Directory of the American Medical Association contains the names of 159,250 physicians, and a list of 6,794 hospitals. It is believed that the medical profession will find this bedside telephone a great convenience to themselves for night use, and to some of their patients during convalescence.

HEART BLOCK AS A FAVORABLE INFLUENCE IN THE PROGRESS OF CHRONIC FIBRILLATION

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President, Good Samaritan Dispensary; Consultant Cardiologist, Lincoln Hospital

I have already reported quite a number of examples of heart block in rheumatic hearts with mitral stenosis, in which the heart block had acted favorably in preventing the evil influence of fibrillation of the auricle.

A few days ago an illustration of another variety of the same compensating mechanism came under my observation in the person of an elderly man (Mr. L. P. H. F.) whom I saw for the first time in April, 1919, when he was 70 years of age.

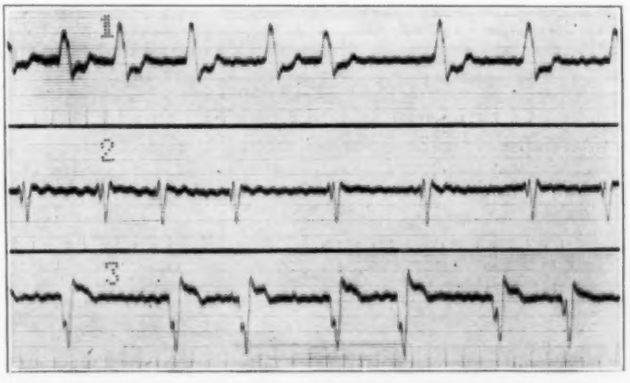


Fig. 1.—Fibrillation of auricle compensated by heart block, April, 1919.

The electrocardiogram, taken in 1919, revealed a fibrillation apparently partially blocked by a bundle branch lesion. Additional observations on his heart made in May, July and October of that year gave much the same picture as the one taken in April, 1919, excepting that in October the block did not appear so efficient and the heart had speeded up a little.

Figure 1 is the electrocardiogram of April, 1919, and Figure 2 of March, 1922, the latter being taken in the man's seventy-fourth year.

During the interval of three years, the patient has been actively engaged in business and has lost but little ground as to his general condition.

There has been practically no digitalization of his heart during this time.

Incidentally, it may be remarked, in connection with the present controversy as to the advisability of the routine use of the electrocardiograph, that without the use of this instrument it would be impossible to demonstrate the true cardiology of this case; and there are many others in the same category.

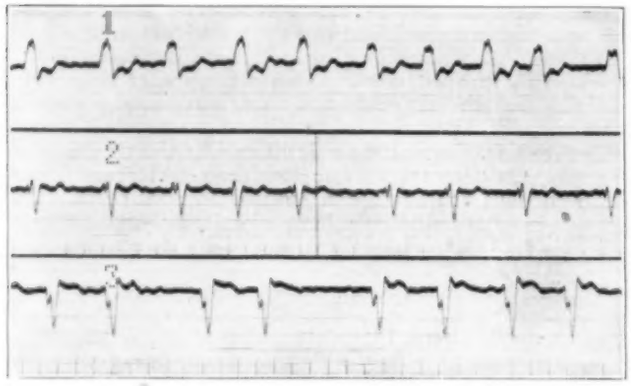


Fig. 2.—Fibrillation of auricle compensated by heart block, March, 1922.

109 East Sixty-First Street.

STOP FOR CISTERNAL PUNCTURE NEEDLE

Hubert S. Howe, M.D., New York

Puncture of the cisterna magna, as described by Ayer, is a procedure which is invaluable in some conditions. It is indispensable in the treatment of meningitis with spinal subarachnoid block, when no fluid can be obtained through spinal puncture. The procedure is obviously not without risk, on account of the proximity of the medulla. Ayer has carefully worked out the proper technic and gives it about as follows:

The patient is placed in the lateral position with the neck moderately flexed, but maintaining the spine and head in a horizontal plane. The needle is inserted in the midline just above the spine of the axis, and directed forward and upward in line with the external auditory meatus. The cistern is entered at a depth of from 4 to 5 cm. This distance is much less variable than that of spinal puncture in the lumbar region. Ayer has also shown that if the cistern is entered at this angle there is a space of from 2.5 to 3 cm. between the dura and the medulla. He advises that a scratch be made on the needle 6 cm. from the tip, and that it never be inserted deeper than this. As there is some resistance as the needle passes through the dura, and a little more force must be used to penetrate it, it is conceivable that the needle, even in the most careful hands, might go in farther than desired. In order to make this impossible, I have devised a simple stop. It is a short, cylindric piece of nickel-plated brass, 4 mm. in thickness and 8 mm. in diameter, with a hole in the center large enough to admit an 18 gage needle. In order to hold it firmly in place, there is a screw on the side. This stop is placed on the needle at a distance of 5.5 or 6 cm. from the tip, and makes it impossible to insert the needle more than this distance. It should never be used on a steel needle, as the pressure of the screw might crack the needle at this point. A gold needle is tough and not brittle, and is the most satisfactory.

Stop for cisternal puncture needle.

The stop is made by James T. Dougherty, 409 West Fifty-Ninth Street, New York.

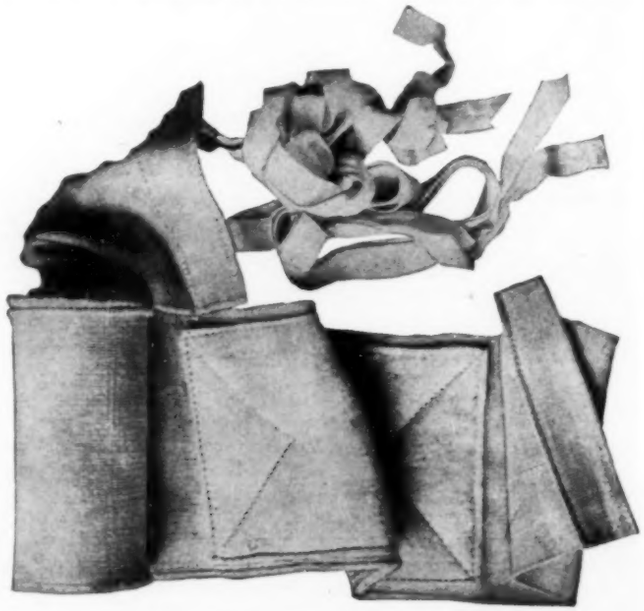
131 East Sixty-Seventh Street.

AN ABDOMINAL BANDAGE FOR PATIENTS WITH WHOOPING COUGH *

Paul Luttinger, M.D., New York

A child during a paroxysm of whooping cough tries frantically to clutch at some support. Various attempts have been made to supply a thoracic or abdominal support for such children. In 1904, Kilmer [1] reported eighteen consecutive cases of whooping cough treated with a special abdominal belt. Three years later, he [2] reported 550 cases treated with his elastic belt (improved model); a general improvement was noted in 95 per cent. of the cases, especially in the reduction of vomiting spells. The original Kilmer belt constricted the thorax as well as the abdomen, was rather heavy, and its price was beyond the means of the average dispensary patient. These drawbacks induced me to devise the bandage here described, which can be obtained for about one dollar.

It is made of the best staple Sea Island cotton, specially woven, so that although it does not contain any rubber, it will stretch considerably (to nearly double its length). This porous weave insures coolness. It will stretch without narrowing, and the feathered edges will not ravel, thus adding greatly to the life of the bandage. At one end of it, there is a reenforced rectangular patch which covers the umbilicus and is resistant enough to prevent the formation of umbilical or other hernias, which often occur during an attack of pertussis. The other end of the bandage has two double tapes sewed to it, so as to go around the body and prevent it from displacement. The sizes for younger infants have a reenforced edge for safety-pins.



Abdominal bandage for use in whooping cough.

The bandage can be washed with soap and warm water, dried on a flat surface without stretching, and ironed crosswise. This procedure will restore its elasticity.

The length of the bandage is 5½ yards (stretched) and 3 inches wide for infants less than 1 year old. Those older than a year take a 4 inch bandage, while those over 2 years take a 5 inch bandage with tapes. The bandage can also be obtained in 6, 7 and 8 inch widths, according to the age of the child.

I found these bandages very serviceable in all stages of whooping cough. When applied early, they positively lessen the number of vomiting spells, and thereby contribute to better nourishment and resistance to the infection. The child is comfortable, and the older children often cry for it. They

* Demonstrated before the Clinical Society of the Bronx Hospital, March 13, 1922.

1. Kilmer, T. W.: A Study of Eighteen Consecutive Cases of Whooping Cough Treated by the Elastic Abdominal Belt, J. A. M. A. **43**: 1749 (Dec. 10) 1904.

2. Kilmer, T. W.: Whooping Cough: Five Hunderd and Fifty Cases Treated by the Abdominal Belt, J. A. M. A. **49**: 1750 (Nov. 23) 1907.

seem to feel a sense of security with it as they have "something to cough against."

I do not think the bandage has any direct influence on the paroxyms. The improvement noticed by Kilmer was probably due to its indirect effect of promoting the general comfort and preventing vomiting. It is possible that this is due to pressure on the vagus, as it has been noticed by ocean travelers that tightening the abdomen often prevents sea-sickness.

In view of the decided benefit derived from the wearing of the abdominal bandage, particularly the almost immediate disappearance of the vomiting, I strongly recommend its use in every case of pertussis.

The bandage is manufactured by Becton, Dickinson & Co., Rutherford, N. J.

1173 Washington Avenue.

TABES DORSALIS PLUS TERTIARY CUTANEOUS SYPHILIS

B. BARKER BEESON, M.D., CHICAGO

Mr. H., aged 57, of German birth, a wood-worker, consulted me in November, 1920, on account of "sores" which had been present on his back for several months. He was seen through the courtesy of Dr. O. W. McMichael, who had previously treated him for pulmonary tuberculosis. The patient had contracted syphilis in Brazil in 1898. The only medication consisted of pills and a salty liquid (probably potassium iodid), which were taken for six months.

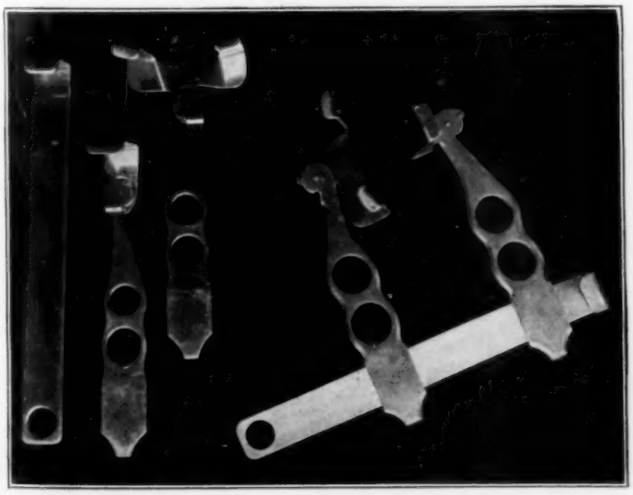
The lesions on his back proved to be well-marked serpiginous syphilids. Further examination revealed distinct ataxia, Argyll Robertson pupils, and an absence of both the patellar and Achilles tendon reflexes. The Wassermann reaction performed with the blood was four plus. An examination of the eyegrounds by Dr. Otto Wipper revealed that they were normal. These findings showed the case to be one of tertiary skin syphilis combined with a characteristic tabes.

7 West Madison Street.

CONVERTIBLE RETRACTOR

A. N. BESSESEN, M.D., MINNEAPOLIS

The intent of this invention is to conserve space and to give a larger sphere of application, in that the individual parts of the instrument can be used singly and, in case of need, combined quickly to form a strong, self-retaining retractor. In this case the double blade tends to prevent rotation of the instrument in the wound. It doubles the number of retractors, at no increase in cost over the single, self-retaining retractor.



Convertible retractor: at left, each instrument in separate outline and as used individually; at right, instruments assembled and as used as a self-retaining retractor.

301 Donaldson Building

A CASE OF URETHRAL CALCULUS OF FIFTY-THREE YEARS' DURATION *

CHARLES S. HIRSCH, M.D., PHILADELPHIA

So far as I have been able to find in the literature, the carrying of a urethral calculus for fifty-three years, which occurred in the case here reported, is without parallel: A carpenter, aged 65, swallowed a pin when 12 years old. A few days later, while riding horseback, he was seized with a sharp pain in the penis, attended with blood oozing from the meatus. Fearing to tell his parents of his condition, he continued to carry what he thought was the pin, and did not consult any physician about the ailment. Urination was only slightly interfered with, but the presence of a foreign substance in the urethra persisted, with comparatively little pain, to which he became accustomed. As the foreign body gradually grew larger and urination became more difficult, he overcame the obstacle by drawing on the side of the urethra, kneading it, as it were, thus allowing the urine to escape alongside it. He married at 25, was the father of six healthy children, and experienced little difficulty or pain on intercourse, the ejaculations apparently not being interfered with. The urinary difficulty went on, from dribbling until the obstruction finally was complete. When he was admitted to the Jewish Hospital, the bladder was distended to a point above the umbilicus. The penis, scrotum and perineum were markedly red and edematous. There was a well defined area of bulging and a fluctuating mass about the size of a hen's egg at the perineal-scrotal junction which was thought to be a suppurative cowperitis. This was accordingly drained, and the larger stone was found embedded in the abscessed cavity. This was removed, a metal catheter inserted to relieve the retention (markedly bloody urine), and the other stone found in the membranous and prostatic urethra. The larger stone weighs 410 grains (26.5 gm.), and the smaller, 130 grains (8.4 gm.).

Stones removed from urethra.

900 Pine Street.

Treatment of Hiccup by Pressure on Carotid Sheath.—DR. ADAM D'ALESSANDRO of Philadelphia describes a method of treating hiccup in adults which he has employed with success in two cases. The left carotid sheath is grasped by the thumb and forefinger at the anterior border and midway between the origin and the insertion of the sternocleidomastoid muscle. The sheath is compressed tightly for about one minute, and in both cases in which the method was tried the hiccup ceased instantly. Recently a colleague tried the treatment in another case, and the hiccup ceased at once.

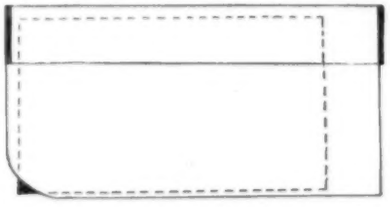
* Reported before the Philadelphia Urological Society of the American Urological Association, March 27, 1922.

A SCARIFIER FOR SKIN TESTS AND VACCINATIONS

FRANK C. DUDLEY, M.D., BROOKLYN

The physician who has tried to make many scratches for skin reactions on the back of a struggling child with a dull scalpel will appreciate this new device. It consists of an ordinary safety razor blade enclosed in a metal envelop so that only one corner of the blade is exposed.

The depth of the scratch is controlled by projection of the blade from its protecting envelop and can be adjusted to any desired depth. The razor blade is so sharp that no pain is felt when a scratch is made, and, besides, a child cannot see any knife to make him afraid.



Scarifier for skin tests and vaccinations, the razor blade projecting at the lower left-hand corner.

A physician with this instrument can make the scarifications for skin tests very rapidly because he does not have to worry about cutting too deep, even if the child should struggle violently.

The instrument is easily sterilized by boiling or with alcohol, and a new blade can be inserted easily when needed.

PAROXYSMAL TACHYCARDIA OF FOURTEEN AND A HALF DAYS' DURATION, WITH RECOVERY

MITCHELL BERNSTEIN, M.D., PHILADELPHIA

History.—S. A., housewife, aged 30, native born, Jewish, complained of palpitation of the heart, and occasional precordial pain. Her mother, three brothers and one sister were living and well. She had been married ten years, and had one child, aged 9. She had measles and scarlet fever in childhood. Menstruation began at 14 years of age and had been regular. During the first menstrual period, in 1905, the patient was suddenly seized with an attack of palpitation of the heart which lasted for an hour, and ceased abruptly. Similar attacks occurred about every two years until 1920, when they occurred monthly; in 1921 the attacks became weekly, and during May, June and July almost daily.

The only warning of an approaching attack was an occasional dropped beat noticed by the patient just before the acceleration of the heart rate; the same phenomenon often followed the termination of the tachycardia. The attacks came on and ended suddenly, continuing usually from one hour to sixty-three hours, and, excepting the first one, had no relation to the menstrual period.

Present Illness.—July 21, 1921, at 2 p. m., while the patient was in bed in the Jefferson Hospital, and without any apparent warning, the heart rate increased from 100 to 228 a minute. After ninety-six hours, the patient insisted on being taken home, where the attack continued until 7:30 a. m., August 5. During this period of fourteen days, seventeen and one-half hours, the heart rate never fell below 180 a minute. The patient's face was dusky and at times ashen-white. Exophthalmos was marked; the veins of the neck were engorged; the respirations were shallow, and oppression was a frequent complaint. Precordial pain was intense, especially over the second and third left interspaces; hyperesthesia was marked over the left side of the neck and the precordium. After the sixth day a thrill was palpable over the entire precordium. Cardiac dulness at the height of the attack extended 2¼ inches (5.5 cm.) to the right and 4½ inches (11.5 cm.) to the left of the midsternal line. The liver extended 2 inches (5 cm.) below the right costal margin. The skin of the entire body was cold.

On the twelfth day of the attack, râles were noted at the bases of both lungs, both legs were slightly edematous, and there was severe pain along the right internal saphenous vein a little below the knee. The temperature rose to 101 F.; a marked glossitis occurred, and the urine contained a trace of albumin, a few pus cells, and a few granular casts.

Physical Examination Between Attacks.—Between attacks the patient was well nourished; the pupils reacted to light and accommodation; the mouth, lungs, abdomen and extremities were normal, as was the heart also, except that the sounds were weak. The systolic blood pressure was from 100 to 110, and the diastolic from 60 to 80.

The urine occasionally had a trace of albumin; the specific gravity varied from 1.005 to 1.025; from four to sixty leukocytes to a field were present, and there were occasional hyaline and granular casts.

Sugar tolerance, June 22, was: blood sugar 0.133 per cent. One hour after ingestion of 100 gm. of glucose, 0.22 per cent. The roentgen ray disclosed nothing abnormal in the heart, neck or chest. Vision in the right eye was 20/30; in the left eye, 20/50; the pupils were equal (4 mm.) and reacted to light and accommodation; the tension was normal, and the muscular movements were normal. Ophthalmoscopic examination detected nothing abnormal in either eye.

The basal metabolism was normal.

Treatment.—Many remedies were tried to combat these attacks: morphin, epinephrin, pituitary extract, chloral, bromids, tincture of digitalis, quinidin sulphate and pressure on the eyeballs and on the vagus nerve. On the thirteenth day of the attack, infusion of digitalis in 4 dram (15 c.c.) doses, was given every six hours for three doses, and then every four hours until nausea and vomiting occurred. A total of 32 drams (120 c.c.) had been given when suddenly the heart rate fell to 100 a minute, where it remained until August 8, the patient taking only one teaspoonful (4 c.c.) of the infusion of digitalis three times a day. August 12 and August 18, the heart rate was 66 a minute.

It is interesting to note, however, that on August 29, August 30, and September 1, although digitalis was still being given the patient, seven attacks occurred, lasting from one hour to two and one-half hours each. The most recent attack was in January, 1922, lasting about two days.

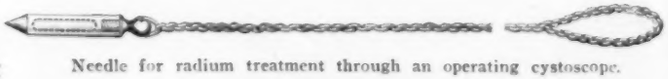
1337 Spruce Street.

A NEEDLE FOR RADIUM TREATMENT THROUGH AN OPERATING CYSTOSCOPE

RUSSELL D. HERROLD, M.D., CHICAGO

It is generally agreed that the value of radium treatment of carcinoma is greater when the radium can be placed directly into the tumor tissue than on surface application.

A new needle capsule has been devised which may be introduced through a cystoscope in certain cases in which a suprapubic operation is not advisable. It may be of value in postoperative treatment or prophylactic treatment of papillomas, a large percentage of which may become malignant later.



Needle for radium treatment through an operating cystoscope.

The needle, as illustrated, consists of two parts: a hollow cylindric silver capsule with solid conical point at one end and threads made on the inner surface of the other open end to hold the cap or second part, which consists of a spherical head screw, made to fit the cup of the Bransford Lewis cutting forceps. There is a hole through the cap for threading a braided silk cord. A smaller capsule is also being made for radium emanation.

A patient with carcinoma of the bladder is being treated with satisfactory results with the capsule needle by the direct needling of the tumor through the Brown-Buerger operating cystoscope. The cystoscope and forceps are then removed, leaving the capsule of radium for several hours, after which it is removed by means of the silk thread connecting to the outside through the urethra.

ACUTE PERIPROSTATITIS SIMULATING ACUTE APPENDICITIS

LEWIS T. MANN, M.D., NEW YORK
Assistant Urologist, Mount Sinai Hospital Dispensary

C. F., aged 33, a salesman, came under my observation, Feb. 6, 1922, with gonorrheal urethritis of two months' duration. He had a slight discharge but no subjective symptoms of prostatitis. The glands in both inguinal regions were swollen. The urethral discharge was mucoid, and microscopic examination revealed pus cells and gonococci. The first urine was cloudy and contained shreds; the second urine was clear. The prostate was moderately enlarged, regular, firm and tender. The seminal vesicles were thickened, but not swollen or engorged. Expressed prostatic fluid contained about 75 pus cells to a high power field, but gonococci were not demonstrated. Four days later, following prostatic massage, the patient walked all day, and that evening was seized with sudden pain in the rectum and right groin, and a desire to defecate, which act caused excruciating pain. He felt chilly; his temperature was 103 F., pulse 90, and respirations 16. Abdominal examination was negative, but the right inguinal glands were more swollen and tender. Rectal examination disclosed the prostate and seminal vesicles unchanged. There was no epididymitis or deferentitis.

The next day, the patient complained of great thirst, nausea, fever, and pain in the lower abdomen, which was more severe on the right side. He had had three painful bowel movements during the night, and while there was no frequency of urination, it was somewhat painful.

The temperature ranged from 101 to 101.6 F.; pulse was 94; the tongue was dry and coated; the lower abdomen was rigid and tender, with most tenderness at McBurney's point, while the right inguinal glands were less tender than the left. There was deferentitis or epididymitis. Rectal examination revealed no masses, and no tenderness in the right iliac fossa, but the rectal wall on each side of the prostate was tender. A diagnosis of acute appendicitis was seriously considered.

There was little change the next morning, but that evening, now three days after onset, rectal examination revealed a tender infiltrated area of the rectal wall over the prostate and vesicles, which extended laterally and above, and fixed the rectal wall to the prostate.

On the fourth day, infiltration of the rectal wall was much more marked, and while the abdominal symptoms and signs had decreased, tenderness was marked on both sides above Poupart's ligament from the inguinal canal to the midline.

Two days later, the abdominal signs had disappeared, and the temperature was normal, but pain persisted in the rectum. Induration of the rectal wall was unchanged, and while the urethral discharge was less, the urine was still cloudy.

From this time there was a gradual uneventful recovery. The induration slowly receded, and after two weeks had practically disappeared.

COMMENT

The whole picture is somewhat different pathologically from the forms generally described, being rather a nonsuppurative periprostatitis. It is interesting to note that on the second day after onset the symptomatology was that of an acute appendicitis, with pain in the lower abdomen, fever of a moderate degree, coated tongue, nausea, abdominal rigidity and tenderness, especially at McBurney's point. The fact that the patient had a prostatitis and tenderness of the rectal wall about the prostate made it necessary to await further developments. If this patient had been seen for the first time on the day after the onset, when the foregoing symptoms and signs were present, there is no doubt that acute appendicitis would have been the diagnosis, and operation the treatment. Only when the rectal findings of infiltration and tenderness appeared on the fourth day was the diagnosis of periprostatitis evident.

No local treatment was instituted until after the process had started to recede spontaneously, and then hot rectal irrigations were given twice daily. Prostatic massage was not undertaken until all periprostatic involvement had entirely disappeared.

50 West Eighty-Fourth Street.

EXTENSION OF THIGH WITH PATIENT IN PRONE POSITION

WALTER G. STERN, M.D., CLEVELAND

The usual method of extension of the thigh for correction of flexion deformities of this joint is extension by weight and pulley—usually in the line of the deformity—with the patient lying flat on the back. It is often advantageous to place the patient on a Bradford frame, and Bradford himself has added a Thomas splint for the purpose of suspending the limb for the comfort of the patient.

These methods give excellent results and are of universal practicability. It is only when one gets down to the last 15 or 20 degrees of flexion that any difficulty is experienced in overcoming the usual flexion deformities. The ideal position desired is complete extension. For this purpose it has been customary to place the buttocks of the children on elevated frames, and even to make traction in a backward direction. This, however, has rarely given me satisfactory results.

A small patient recently solved the problem for us when, after the hip had been reduced from a flexion contracture of more than 100 degrees to a flexion contracture of about 20 degrees, the child took it into his head to assume the prone position. Nothing that the nurse could do was successful in keeping the child on his back long, and only when we realized that by assuming the prone position he was aiding us in securing full extension was the effort to have the child lie on his back given up. A few days of this prone position succeeded in entirely reducing the deformity, after which a plaster spica was applied from the toes to the axilla, and the child was allowed on his feet with crutches.

I have never seen this procedure either in print or practice anywhere, but make no claim for originality. The results of this method of extension were so remarkable and so quickly obtained that I can recommend it in similar cases of hip joint disease.

821 Schofield Building.

AN ORIGINAL METHOD FOR LANTERN SLIDE PROJECTION OF ROENTGEN-RAY FILMS OF THE MASTOID

NORVAL H. PIERCE, M.D., CHICAGO

The present method of making photographic plates from roentgen-ray films for lantern slide projection is unsatisfactory because these plates are likely to show a loss of detail and give an inversion of colors. To overcome the latter objection, a second plate is made from the first. This may show a still further loss of detail, although the projection on the screen corresponds to the original roentgen-ray film with reference to black and white. This method is expensive, and requires time for preparation.

To overcome all this, one may simply place a lantern slide cover plate over the desired portion of the film and cut it out. This portion of the film is then placed between two cover plates, and the edges are fastened with passepartout. The slide is now ready for projection, and will appear on the screen as it does on the film as regards black and white, without loss of detail.

For roentgenograms taken on sensitized glass plates, a diamond glass cutter may be used to cut out the desired portion. A cover glass is then placed over the photographic surface and the two bound together as before.

This is also a convenient and practical method of preserving the pictures of the mastoid. Both right and left mastoids may be placed on one plate.

22 East Washington Street.

Care of Expectant Mother in Industry.—In large industrial centers facilities for the care of the expectant mother are given by the antenatal clinics of the maternity hospitals, also care during confinement, and postnatal advice. The children can be kept under observation at the infant clinics and welfare centers. In this way much of the chronic ill health due to pregnancy is diminished and the infant mortality reduced both before and after birth.—A. L. McIlroy, *Nation's Health* **4**:134 (March) 1922.

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SATURDAY, MAY 20, 1922

WHERE IS UREA FORMED?

Almost all of the nitrogenous part of the proteins ingested by man or liberated through tissue disintegration appears in the excreta as urea. As there is no storage of protein in the body under ordinary circumstances, an effective device for converting the nitrogenous waste into a form suitable for prompt and easy elimination in the urine must be available to the organism. The problem of the mode and seat of urea production has long, and properly, engaged the attention of physiologists. If the reactions involved are complicated and if a highly specialized glandular equipment is essential, it is obvious that even slight derangements of the mechanisms and cellular chemistry concerned might lead to untoward consequences to the body; for there is no cessation of the task involved. Day and night the unusable nitrogenous fragments are obtruding themselves into the metabolic household to be disposed of, so that the possible harm from a failure to rid the tissues of such intolerable waste is ever threatening.

Not so many years ago it was suspected that the kidneys were the place where, in some mysterious way, urea is formed. The assumption was shown to be untenable so far as it implied that the renal tissue is the sole or even the chief seat of urea production; for, when the kidneys are ligated or extirpated, this waste product heaps up in the blood. Thanks to ready methods of chemical blood analysis, the phenomenon is today familiar in the case of persons who have had anuria following or accompanying nephritis. The accumulation increases with the duration of the lack of adequate kidney excretory function.

Presently the speculation of physiologists turned to the liver in search of an explanation of urea production. It would take us too far afield to retrace the steps in this story. In the end it has become improbable that the liver is the sole organ endowed with urea-forming capacities, although it has in recent years been looked on as having a special function in the origin of urea. The once prevalent idea that the digestion products of the proteins, that is, the amino-acids, lose their nitrogen during the process of absorption has been abandoned. The more current hypothesis has been that the surplus of amino-acids stored in the liver, in consequence of the excessive absorption, is speedily deaminized and the nitrogen removed in the form of urea, and, later, the amino-acids stored in the muscles and other tissues are likewise transferred to the liver and there subjected to the same process.[1]

Folin and Berglund[2] of the Harvard Medical School have lately questioned the validity of the assumption that urea formation is relegated largely to the liver. They point out that, since there is general agreement that the greater part of the food protein is absorbed as simple amino-acids, and that the amino-acids, so far as they pass the liver, are absorbed by all the other tissues, the whole problem has really narrowed down to the one question of whether the absorbed nitrogen does or does not pass out of the liver in the form of urea. The analytic data now available show quite clearly, however, that the increment of amino-acid nitrogen precedes that of urea in the blood after meals rich in the precursors; hence there is no occasion to conclude that the liver has developed special powers of denitrogenation in contrast with those of the muscles or other tissues. At any rate, the muscles have abundant opportunity to share in urea formation. If the long dominant belief in the special function of the liver is to be abandoned, the assumption of liver "strain" or hepatic "overwork" in the metabolism of even large quantities of protein becomes somewhat untenable. Inability to form urea to the fullest extent of the body's requirement for the disposal of nitrogenous waste must be one of the rarest of conditions; and the presumably large capacity of various tissues for the production of the catabolite must be reckoned as one of the striking instances of the organism's many factors of safety.

THE NUTRITIONAL VARIABILITY OF MILK

Although most of the organic constituents of milk are peculiar to it and are evidently manufactured by the mammary gland, some of the components of the secretion seem to be derived directly from the blood of the lactating individual. On account of the preeminence of the synthetic functions of the mammary gland, it has proved difficult as a rule to secure alterations in the character of the milk by experimental means. The secretory cells evidently tend to produce a product "true to type." It may vary in quantity in any given unit of time, but the quality of the fluid, in the sense of its fundamental composition, is rarely altered to any significant extent. Nevertheless, foreign substances, such as drugs, sometimes find their way into the milk from the blood, into which they may have been introduced by absorption or otherwise. Recently Denis,

1. Van Slyke, D. D.: The Harvey Lectures **11**: 146, 1915-1916.
2. Folin, O., and Berglund, H.: The Retention and Distribution of Amino-Acids, with Especial Reference to the Urea Formation, J. Biol. Chem. **51**: 395 (April) 1922.

Sisson and Aldrich[1] have observed that marked changes in the concentration of the inorganic and certain organic nonprotein constituents of the blood may result in a correspondingly greater transfer of these to the milk. Thus, when either the proportions of urea or chlorids, for example, are increased in the blood they reappear in higher concentration than usual in the milk.

The principle is not invariably applicable to those milk constituents not directly synthesized by the mammary gland, for Denis and her co-workers have found that calcium cannot be so readily increased as can the constituents just referred to. It is highly important, however, to appreciate that the vitamins which milk invariably contains and which admittedly are an important element in nutrition vary in their concentration in the fluid in relation to the diet of the lactating organism. For the antiscorbutic potency of cow's milk, this has been recognized some time. The season variation in this respect was pointed out in 1919 by Barnes and Hume[2] in England and by Dutcher, Pierson and Biester[3] in this country. Subsequent studies have demonstrated clearly that the vitamin C content, i. e., the antiscorbutic quality of milk, can be influenced materially by the food of the cow.[4]

The suggestion that a definite relationship may exist between the amounts of all the vitamins secreted in milk and those ingested with the diet has received further substantiation from recently published studies at the University of Minnesota.[5] They show that the presence of vitamins A and B in cow's milk is entirely dependent on their occurrence in the ration. Stall-fed cows will produce a milk rich in vitamins, provided their ration consists of a proper combination of grains and leafy food. A vitamin-rich milk is not necessarily correlated with access to pasturage; in other words, the problem of securing the richer product is one of appropriate food, whatever may be its immediate source.

If these investigations may be accepted as demonstrating the importance of feeding cows a ration adequate as to its vitamin content, there is no apparent reason why the same conclusion should not be applied to lactating mothers. This does not mean, however, that the latter must proceed to the druggist's shop for some special product to insure a "safe" milk for their offspring. On the contrary, the information serves as a reminder that a well selected dietary will meet the demand of lactation and help to provide the ideal food for the babies. In the words of a recent writer, "In order to make full use of the present knowledge of food chemistry, the facts which have been learned regarding vitamins and other factors of food value should be viewed from the standpoint of the wise utilization of food resources as a means of promoting the best nutrition of the people as a whole."[6] With respect to the commercial supply of cow's milk, this summary of the situation deserves to be widely disseminated:

> Since the food of dairy cattle at all times of the year ordinarily contains an abundance of green leaves either fresh or preserved as silage, or dried as hay, there is thus insured to the cow a liberal supply of both the A and B vitamins for transmission through her milk, and in the case of the A vitamin the dairy cow also carries a considerable store in her body so that the A vitamin content of cow's milk is probably in most cases fairly well maintained even though the food of the cow should for a time be deficient in this respect. It is of course possible to obtain, from cows fed for a long time upon feeds very poor in vitamin A, milk showing subnormal amounts of this vitamin; but such conditions are not frequent in good modern dairy farming, and cows so badly fed do not yield enough milk to constitute a large factor in the milk supply. There is probably a much larger seasonal variation in the amount of C vitamin contained in cow's milk than in either its A or B vitamin content. This being now recognized, it is only necessary to use a small amount of orange juice or other antiscorbutic fruit or vegetable product in order with a liberal supply of milk in any of its various forms to insure an ample intake of all three of the vitamins at all seasons.[7]

UNDERWEIGHT AND OVERNUTRITION

In discussions as to the cause of obesity, it is customary to refer to hereditary peculiarities to account for the undue increments of body weight. Thus, von Fürth[8] has remarked that common experiences indicate how many persons who are "disposed" toward corpulence accumulate fat even though they do not ingest any more food apparently than do other individuals; in such cases one might suspect that there exists a lowering of the exchange of materials. Certain instances of adiposity are today clearly recognized as being associated with endocrine disturbance. In this respect they fall into the domain of the pathology of nutrition. For the most part, however, there is no reason to suspect any profoundly altered metabolism in the direction of diminished combustion, or even a "lowered energy cost of digestion." The accumulation of fat, even in supposedly moderate eaters, may usually be explained by the summation and storage of very small amounts of food beyond the maintenance requirement. In other words, it represents the favorable balance of intake over expenditure of matter.

There is a not inconsiderable group of persons who seem to fail to respond by increment of weight to a good intake of food. Of these, no account will be found in the textbooks; yet the instances of persons with good appetites and apparent inability to gain in

1. Denis, W.; Sisson, W. R., and Aldrich, M.: A Study of the Effect Produced on the Composition of Milk by the Administration of Certain Inorganic and Organic Substances, J. Biol. Chem. **50**: 315 (Feb.) 1922.
2. Barnes, R. E., and Hume, E. M.: Biochem. J. **13**: 306, 1919.
3. Dutcher, R. A.; Pierson, E. M., and Biester, A.: Science **50**: 184, 1919.
4. Hart, E. B.; Steenbock, H., and Ellis, N. R.: J. Biol. Chem. **42**: 383 (July) 1920. Hess, A. F.; Unger, L. J., and Supplee, G. C.: Ibid. **45**: 229 (Dec.) 1920. Dutcher, R. A.; Eckles, C. H.; Dahle, C. D.; Mead, S. W., and Schaefer, O. G.: Ibid. **45**: 119 (Dec.) 1920.
5. Kennedy, C., and Dutcher, R. A.: Vitamine Studies, IX, The Influence of the Diet of the Cow upon the Quantity of Vitamines A and B in the Milk, J. Biol. Chem. **50**: 339 (Feb.) 1922.
6. Sherman, H. C., and Smith, S. L.: The Vitamins, 1922, p. 214.
7. Sherman, H. C., and Smith, S. L.: The Vitamins, 1922, p. 228.
8. Von Fürth, O.: The Problems of Physiological and Pathological Chemistry of Metabolism, Translation by A. J. Smith, Philadelphia, J. B. Lippincott Company, p. 394.

weight, despite a presumably favorable surplus of food above the estimated needs for the day's work, are commonly encountered. Every physician is familiar with persons in admittedly good health for whom no type of diet succeeds in increasing size. They represent the "spare" or nonfattening group of persons who, despite only moderate activity and copious diet of predominantly carbohydrate nature, remain at a figure well below the average for their stature. They are not suffering from recognized glandular disturbance, such as hyperthyroidism; for the basal metabolism, i. e., the energy exchange at rest and without food, may be quite within normal ranges.

Gulick [9] has made an unusually extensive study of a typical case. Through overnutrition it was possible to secure some gain in weight. Nevertheless, over long periods of feeding beyond the predictable needs of the individual concerned there were no increments in body weight to account for the surplus of food ingested above what the bodily activities and maintenance metabolism would normally demand to secure equilibrium. Furthermore, actual investigation revealed that the basal metabolism was not appreciably altered. Gulick cannot avoid the conclusion, therefore, that in such persons the metabolism as a whole is extravagant. We may think of them as burning up food freely in order to get rid of it. In other words, some persons may owe their resistance against fattening to an extravagant calory requirement which persists at all times without involving any augmentation of the basal metabolic rate. The idea is not new, but it deserves more serious consideration than has heretofore been accorded to it. Perhaps the protection against overfattening is an inborn factor, and consequently attempts to frustrate it are commonly unavailing.

Current Comment

ANOTHER MARTYR TO THE STUDY OF TYPHUS—A. W. BACOT

When The Journal pointed out in a recent issue [10] that the study of typhus fever not only requires expert knowledge and investigative skill of a high order, but also calls for real heroism, it could not have anticipated that within a few days another name was to be added to the list of the martyrs whom it extolled. On April 12 occurred the death of Arthur William Bacot, F.E.S., entomologist to the Lister Institute of Preventive Medicine in London, a victim of typhus fever which he contracted while engaged in an investigation of the disease at Cairo, Egypt. For several years Bacot has been an outstanding figure in the study of the bionomics of insects and their rôle in the transmission of disease. Since early in the World War he concentrated his energies upon the problems raised by the louse, into the life-history and habits of which species he entered with great skill and success. Plague and yellow fever each received Bacot's attention several years earlier; and in 1920 he joined the Typhus Research Commission of the League of Red Cross Societies to Poland in the labors recently reviewed in these columns.[11] In the course of this work he contracted trench fever at Warsaw and has communicated an excellent, detailed account of that illness, furnishing one of the few reports of unusual disease described by a competent observer who was himself the victim. All who knew him can bear personal witness to the fearlessness and skill with which Bacot undertook his experiments with dangerous insects during the dark days of the war at a time when the menace of these species was suspected; but our ignorance of the immediate agencies concerned in the spread of threatening diseases made all manipulation of experimental test materials extremely hazardous. Entomology, which had at one time afforded a delightful pastime to this English gentleman, later became a "ruling passion" with him. As an enthusiastic amateur he enriched science through conspicuous contributions; and as a professional entomologist applying his knowledge to the use of preventive medicine, Bacot became an almost indispensable worker in the protection of mankind. Accordingly, lest we forget, let us reiterate the names of those who, as a consequence of their researches, contracted typhus and died: Bacot, Conneff, Cornet, Jochmann, Lüthje, von Prowazek, Ricketts, Schüssler.[12]

MASSACHUSETTS AND THE SHEPPARD-TOWNER ACT

As is well known, the Sheppard-Towner Act requires that states which wish to cooperate in promoting maternal and infant welfare under its provisions, after the first year, appropriate a certain sum from their own treasuries in order to secure a proportionate share of the federal appropriation provided by Congress. Before passing a measure providing for cooperation in this work, the Massachusetts State Legislature requested the opinion of the state's attorney-general as to the constitutionality of the Sheppard-Towner Law. The attorney-general in reply expressed the opinion that the law in question is unconstitutional. He said, in part:

> This, in my judgment, is . . . an attempted exercise of power over the subject of maternity and infancy, and thus an incursion into the field of the local police power, reserved to the states by the tenth amendment. The objections to the act go further in that the proposed appropriations are not general in their application, but are confined to those states which accept the act and appropriate their own funds to be used for its purposes. . . . For this reason, the appropriations, if made, would not be for "the general welfare of the United States," even if those words are given the broadest signification. Indeed, it is yet to be determined that Congress has the power to appropriate to the states, according to any method of apportionment, revenues raised from the people of the United States for national purposes.

9. Gulick, A.: A Study of Weight Regulation in the Adult Human Body During Overnutrition, Am. J. Physiol. **60**: 371 (April) 1922.
10. Typhus Fever: A Study of Disease and Its Martyrs, editorial, J. A. M. A. **78**: 1054 (April 8) 1922.
11. Consult Footnote 10. Wolbach, S. B. et al.: The Etiology and Pathology of Typhus, Harvard University Press, Cambridge, Mass., 1922.
12. Obituary notices of Bacot will be found in the Lancet, April 22, 1922, p. 817; Brit. M. J., April 22, 1922, p. 662; London Letter, this issue, p. 1550.

It has been estimated, the attorney-general continues, that 5.66 per cent. of the internal revenue taxes are paid by the citizens of Massachusetts, and that less than half that amount would be returned to them under this act if they accept it; but if Massachusetts does not accept the act, its citizens will still be taxed in order to carry into effect in other states an unconstitutional law. He suggested that the commonwealth of Massachusetts test the validity of the law by initiating equity proceedings in the Supreme Court of the United States, and it is said that this will probably be done. The Sheppard-Towner Law encountered strong opposition before enactment, and has received much criticism since. Although the work it aims to promote appeals to public sympathy, the work is a function of the individual states. It is hoped that Massachusetts will carry its case through.

FOOT AND MOUTH DISEASE IN GREAT BRITAIN

Foot and mouth disease has existed so long on the continent of Europe that any attempt at general eradication seems to have been abandoned by most continental countries, the best that can be hoped for being a restriction to certain localities and a limitation of spread. Great Britain, on the other hand, has been kept quite free from this destructive stock malady, although unremitting effort has been needed to combat the occasional foci originating from chance introduction. The general disorganization of quarantine and preventive measures incident to the Great War in most parts of the world has been followed by more frequent outbreaks in Great Britain during the last few years. Until recently, however, some measure of control has apparently been practicable. In the early part of this year, however, serious extension of the foot and mouth disease occurred in England and in Scotland, a recent report placing the total number of infected herds at 643. The outbreak is said to be the most serious one known in thirty years, and has already caused great financial loss to the live stock industry. Extra vigilance is being used to prevent the introduction of the disease into the United States. Permits for importation of ruminants and swine from any part of Great Britain or from the continent of Europe are being refused in both the United States and Canada.

DISTRIBUTION OF PHYSICIANS IN FRANCE

Irregularity in the distribution of physicians is not a condition peculiar to the United States. As shown in the Paris letter last week, similar conditions exist in France. Mountainous districts or those having poor roads have very few physicians, while large centers of population, and particularly the popular watering and health resorts, are overcrowded with physicians. Large cities and naval ports, the populations of which are mainly industrial, have fewer physicians than other cities of equal size. As to the total supply of physicians, France has a smaller number in proportion to population than the United States. Paris has only one physician to every 700 inhabitants, whereas twelve cities in the United States having more than 500,000 population have one physician to every 530 persons. Marseilles and Lyons, each of which has more than 450,000 inhabitants, have one physician to approximately 850 persons, whereas twenty-one cities in the United States having between 200,000 and 500,000 inhabitants have one physician to approximately every 500 persons. In mountainous districts, the scarcity of physicians is even more pronounced than in the United States, in some of these districts the number of physicians being as few as one to every 4,000 inhabitants. The irregularity of distribution in France, therefore, is due to the same causes as in the United States, that is, economic conditions and the desire to have access to better social and educational advantages.

Association News

ST. LOUIS ANNUAL SESSION

Broadcasting the Opening General Meeting

The opening general meeting of the St. Louis Annual Session will take place on the evening of Tuesday, May 23, beginning at 8:30 o'clock. For one-half hour preceding this time, during the assembling of the Fellows and guests, an orchestral musical program will be given. This will be the meeting at which the President-Elect is inducted into office and when he will deliver his Presidential address. Arrangements have been made for broadcasting the program. Those who may wish to "listen in" will set their apparatus to receive the wave length 360 meters. The code will be "W E B."

A Meeting of Cardiologists

There will be a meeting of those especially interested in the study of Heart Affections on Tuesday, May 23, 1922, at 3 p. m., in the lecture room in the department of chemistry of the Washington University Medical School, at Euclid and Scott Avenues. This meeting will be under the auspices of the Philadelphia Society for the Prevention and Relief of Heart Diseases, which has delegated Dr. S. Calvin Smith as its representative. The purpose of this meeting is to organize an association wherein rules may be evolved to establish electrocardiography on a firm clinical basis, rather than on technical grounds.

All those interested in the study of heart diseases will be welcome to this meeting.

Conference on Health Problems in Education

The second annual conference of the committees of the several state medical associations on "Health Problems in Education" will be held at 2:00 p. m., Tuesday, May 23, in the south dining room, lobby floor, Claridge Hotel, Locust at Eighteenth Street, St. Louis. Dr. J. M. Dodson, chairman of the Committee on Health Problems in Education of the Council on Health and Public Instruction, will preside. This conference will be open to all who are interested.

Reunion of Fort Riley Medical Officers

Arrangements are being made for a reunion of those medical officers who served at Fort Riley during the World War. Detailed announcement will appear in the American Medical Association *Daily Bulletin*.

The Alpha Omega Alpha Luncheon

The Alpha Omega Alpha fraternity will hold their reunion luncheon, Thursday, May 25, at 12:30 p. m., at the St. Louis Club, 3663 Lindell Boulevard, St. Louis. A cover charge of $2 has been fixed. Dr. E. H. Terril, Barnes Hospital, St. Louis, is in charge of arrangements.

Medical Veterans of the World War

The annual meeting of the Medical Veterans of the World War will be held in St. Louis. Detailed announcement will appear in the American Medical Association *Daily Bulletin*.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Alabama Pediatric Association.—The organization meeting of the Alabama Pediatric Association was held, April 17, in Birmingham. C. B. Bray, D.D.S., Birmingham, was elected president, and Dr. Jerome Meyer, Birmingham, secretary-treasurer.

Drive for Gorgas Memorial.—At the annual meeting of the Medical Association of the State of Alabama, resolutions were adopted urging all members of the association to endeavor to obtain $200 each as a contribution toward the Gorgas Memorial at Panama and Tuscaloosa. The maximum return possible from the resolution is $500,000, to be raised by the 2,500 members of the medical profession of Alabama.

ARKANSAS

Hospital News.—A new hospital will be erected at St. Edward's Infirmary, Fort Smith, at a cost of $200,000. Plans have been completed and construction work will be started at once.

CALIFORNIA

New Health Center.—A new $30,000 health center is to be built in Alameda under the auspices of the board of public utilities. It will be completed in September. Funds for this purpose will be taken from the surplus of the municipal electric light system.

Chiropractor Fined.—It is reported R. E. Ross, a chiropractor, was fined $300 for practicing in the state without a license. He first determined to go to jail, where he remained thirty-nine days, reducing the fine $2 a day. He was finally released on paying the remaining sum.

New Medical Club.—At a meeting of the Santa Clara County Medical Society, in San Jose, May 2, the Medical Club was organized, consisting of all the physicians of the county. Dr. Henry C. Brown, health officer of San Jose, was elected president of the club, and Dr. Robert S. Kneeshaw, secretary.

World War Veterans Meet.—A meeting of the medical officers of the World War, who are residents in and about San Francisco, was held, May 5, in the American Red Cross rooms, for the purpose of organizing in San Francisco a sector of the Association of the Army of the United States. Col. William B. Banister, San Francisco, was elected chairman and Dr. Ewald H. Angermann, San Francisco, treasurer.

DISTRICT OF COLUMBIA

Law Against Illicit Drug Traffic.—The Miller antinarcotic bill was passed by the Senate, May 12. There was no roll call, the measure being adopted by acclamation, when Senator Curtis of Kansas, who is in charge of the measure, explained its purpose.

GEORGIA

Secretaries Form an Association.—The first meeting of the association of secretaries of the Medical Association of Georgia was held May 2, at Columbus. Dr. Thomas H. Smith, Valdosta, was elected president of the new organization, and Dr. Homer L. Barker, Carrollton, secretary. Dr. E. C. Thrash, president of the state society, gave an address.

ILLINOIS

Physician Elected Mayor.—Dr. Omar F. Barnes was recently elected mayor of Arcola.

Personal.—Dr. Roswell T. Pettit, Ottawa, while in Paris, France, was struck by a taxicab. He was confined to the hospital with injuries for ten days.

Physician Sentenced.—It is reported that Dr. James D. Banta, Rock Island, was sentenced by Judge Fitzhenry, May 9, to two years in the Leavenworth penitentiary, following conviction for violation of the Harrison Narcotic Law.

Holiday for Physicians.—At a meeting of the Peoria Medical Society, held recently, it was decided that the offices of Peoria physicians should close on Thursday afternoons during May, June, July, August and September. Emergency calls will be answered from Main 214, the Physicians' Exchange.

Health Program at Benton.—A plan for carrying out a public health program was recently successfully undertaken at Benton, when six physicians from the field staff of the state department of public health simultaneously delivered five minute talks before audiences at motion picture theaters, dance halls, American Legion post quarters and other popular meeting places. The physicians in each case were introduced by well known citizens. As a result of these talks, the attendance on a public health demonstration was greatly increased, and the plans for establishing a permanent nursing service were materially furthered.

Chicago

Personal.—Dr. Charles Adams was given a dinner at the Drake Hotel, May 10, on the occasion of his return from the Orient. It is announced that Dr. and Mrs. Adams will hereafter reside permanently in Honolulu.——Dr. Orville Winthrop McMichael, professor of medicine in the Polyclinic Hospital, has been elected commander of the Illinois Naval and Military Order of Spanish-American War Veterans.——Dr. Francis Gerty has been appointed superintendent of the Cook County Psychopathic Hospital, Chicago, to succeed Dr. Clarence A. Neymann, who has resigned to resume private practice. Dr. Gerty has been a member of the consulting staff of the hospital for several years.

INDIANA

New County Hospital.—The contract has been let for the erection of the new county hospital at Greencastle. The county commissioners appropriated $95,000 for the building in 1921, and $2,500 per year toward its maintenance. It is expected that the institution will be ready for occupancy in November.

IOWA

Personal.—Dr. Frank T. Launder, Garwin, has been reappointed for another five-year term on the state board of health.——Dr. D. G. Lass has resigned as health officer of Ocheyedan.——Dr. Walter R. Cook, Pisgah, was recently elected president of the Harrison County Medical Association, and Dr. Carl A. Heise, Missouri Valley, was elected secretary-treasurer.——The Grundy County Medical Society gave a reception and banquet to Dr. Eugene A. Crouse, March 15, to celebrate his fiftieth year of continuous practice in that county. Following the reception, Dr. Crouse was presented with a silver loving cup.

Iowa State Medical Society.—At the seventy-first annual meeting of the Iowa State Medical Society, held at Des Moines, May 10-12, under the presidency of Dr. Alanson M. Pond, Dubuque, the following officers were elected for the year 1922-1923: president, Dr. Charles J. Saunders, Fort Dodge; president-elect, Dr. Oliver J. Fay, Des Moines; vice presidents, Drs. George Kessel, Cresco, and Ora F. Parish, Grinnell. Dr. Tom B. Throckmorton and Dr. Thomas F. Duhigg were reelected secretary and treasurer, respectively, for a period of three years. The 1923 convention of the society will be held in Ottumwa, May 9-11. An appropriation of $7,500 was made for the work of the Field Activity Committee.

KANSAS

Hospital News.—The contract has been let for the erection of the Bell Hospital, at a cost of $300,000. This hospital will be operated by the University of Kansas Medical School, Lawrence and Rosedale, and will be located in Kansas City.——Mr. M. C. Waters has offered a tract of 5 acres of land for a site for a hospital to be erected by the Sisters at Liberal. The building will cost approximately $75,000.

State Medical Meeting.—At the fifty-sixth annual meeting of the Kansas Medical Society, in Topeka, May 3-4, under the presidency of Dr. Chauncey S. Kenny, Norton, the following officers were elected: president, Dr. Middleton L. Perry, Topeka; vice presidents, Drs. John R. Scott, Ottawa, Leon Matassarin, Wichita, and Elmer E. Morrison, Great Bend, and secretary, Dr. John F. Hassig, Kansas City. Dr. George M. Gray, Kansas City, who was appointed to fill out the unexpired term of office of treasurer, held by the late Dr. Lewis H. Munn, Topeka, was elected treasurer. The next convention of the society will be held at Kansas City, in 1923.

MARYLAND

Personal.—Dr. Ralph Gregory Beachley, formerly of the U. S. Public Health Service, has been appointed assistant to the director of the Health Demonstration Unit being conducted in Washington County by the Johns Hopkins School of Hygiene and the Rockefeller Foundation.

Hospital News.—Plans are being developed for the opening of a new hospital for convalescent children in July. A site to be known as "Happy Hills," near Mount Washington, has been donated, and a private campaign to secure funds for the project is being inaugurated. Dr. William H. Welch has been made president of the hospital.——A ten-day campaign is being conducted in Montgomery County in an effort to raise $30,000, for the benefit of the Montgomery County General Hospital, Sandy Springs. The money will be applied to a mortgage on the property and will provide much needed additional equipment.

MASSACHUSETTS

Registration Suspended.—It is reported that at a meeting of the Massachusetts Board of Registration in Medicine, the registration of Dr. Arthur A. Lawrence, Boston, was suspended for one year, terminating April 18, 1923.

Personal.—Dr. John E. Walsh has resigned as chairman of the board of health of Revere.——Dr. Timothy F. Brassil, Cambridge, received a fracture of the skull when the automobile in which he was riding collided with another machine, recently.

Honor for Scientist.—Prof. William Duane, Ph.D., Medical School of Harvard University, Boston, was recently awarded the John Scott Medal and Certificate, with premium of $800, by the City Trusts of Philadelphia for his researches in radioactivity and roentgen rays. This award is made annually for scientific achievement, in accordance with the terms of the bequest by John Scott more than half a century ago. Madame Curie was the recipient of the award in 1921.

Medical Advisory Board.—The first meeting of the Medical Advisory Board was recently held in Boston, and organized with Dr. Francis X. Mahoney as chairman. This board was appointed to advise and cooperate with the health commissioner, on request, and in cases of emergency, in preventive medicine. Dr. Mahoney requested that the medical board convey to their respective societies the desire that all physicians cooperate with the health department in the prevention of disease. Promotion of the Schick test in the city of Boston was unanimously favored, and it was decided that clinics for demonstration of this test and of the treatment for diphtheria will be conducted under the auspices of the health department.

MICHIGAN

Personal.—Dr. Robert B. Harkness, Houghton, has been appointed a member of the state advisory council of health, to succeed Dr. J. G. Turner.

MINNESOTA

Mayoral Appointments.—Dr. Frederick A. Swartwood was elected mayor of Waseca for the third term in April.——Dr. Julius R. Sturre was elected mayor of Watkins, recently.

Personal.—Dr. Mabel S. Ulrich has been appointed full-time executive secretary of the Hennepin County Public Health Association.——Dr. Wallace H. Cole, St. Paul, will be chief surgeon of the new Shriner's Twin Cities Hospital for Crippled Children, to be erected in that city at a cost of $234,000. The building will be completed within six months.

MISSOURI

Physicians to Be Reimbursed.—It is announced by the Kansas City health commissioner that physicians are to be paid $1 for each report on tuberculosis filled out and sent to the state board of health. This law was enacted three years ago, but has never before been observed. The increase in tuberculosis has resulted in the issuing of four-page forms to physicians, with the request that they fill them out for each tuberculosis case.

State Medical Meeting.—At the annual meeting of the Missouri State Medical Association, in Jefferson City, May 2-4, the following officers were elected for the ensuing year: president, Dr. Arthur R. McComas, Sturgeon; vice presidents, Drs. Herbert C. Powers, Joplin, Frank I. Ridge, Kansas City, Wenzel C. Gaylor, St. Louis, Encinas C. Callison, Kirksville, and Louis M. Edens, Cabool; secretary, Dr. Edward J. Goodwin, St. Louis, and treasurer, Dr. J. Franklin Welch, Galesburg, both reelected. The next annual session will be held in Joplin, May, 1923.

NEBRASKA

Hospital Items.—An addition will be erected at St. Mary's Hospital, Columbus, at a cost of $200,000.——Bids have been received for the $115,000 tuberculosis hospital to be erected at Kearney.——Construction has been started on the new building for the St. Catherine of Sienna Hospital, McCook, which will have a capacity of thirty beds.

State Medical Meeting.—At the fifty-fourth annual session of the Nebraska State Medical Association, held at Omaha, April 24-27, under the presidency of Dr. Byron B. Davis, Omaha, the following officers were elected for the ensuing year: Dr. Benjamin F. Bailey, Lincoln, president; Drs. Roy W. Fouts, Falls City, and Arthur E. Cook, Randolph, vice presidents. Dr. Willson O. Bridges, Omaha, was reelected as a member of the committee on the official publication of the association, *The Nebraska State Medical Journal.* Lincoln was selected as the meeting place for the 1923 session.

NEW JERSEY

Personal.—Dr. John C. Cox, health officer of Maplewood, has been appointed registrar of vital statistics for three years.——Dr. Norman H. Probasco, Plainfield, has resigned from the Muhlenberg Hospital after twenty-two years' service.——Dr. Eugene H. Goldberg, Kearney, has resigned as chief surgeon of the Soldiers' Home. Dr. Goldberg has been connected with the home for more than twenty years.

Hospital News.—The Bergen County Hospital for the tuberculous was opened for public inspection, April 1. The institution was erected at a cost of $400,000.——A reconstruction hospital will be erected at Morristown for the care of disabled ex-service men by the government.——A $100,000 addition to the Atlantic City Hospital will be erected for which plans are being prepared.——The contract has been awarded for the new building, to be erected at a cost of $513,000, of the Elizabeth General Hospital, Elizabeth.

NEW MEXICO

Physician Appointed to Health Work.——Dr. George P. Paul of the International Health Board has been appointed chief of the division of county health work on the staff of the state bureau of public health, with headquarters at Santa Fe. Dr. Paul has been with the International Health Board for nineteen years, a great part of the time in foreign service. He took up his work in Santa Fe, May 15.

NEW YORK

Westchester County Physicians Celebrate.—The Medical Society of the County of Westchester, which was organized in 1797, celebrated its one hundred and twenty-fifth anniversary on the evening of May 11 by a dinner in New York. A book recording the history of the society was presented to the guests.

University News.—Ground will be broken, about June 1, for the research laboratory building to be erected for the new medical school of the University of Rochester at Oak Hill.——The annual meeting of the New York Association of the University of Rochester Alumni was held, April 21.——Prof. Clarence King Moore will represent the university at the celebration of the seventh centenary of the foundation of the University of Padua.

Society to Prevent Accidents.—A national organization has been formed in New York, backed by some of the leading citizens of this and other cities, which will aim to educate the people to the dangers to life and limb because of carelessness, absentmindedness, selfishness, ignorance, wilful neglect and the breaking of laws. Dr. Franklin Lawson, New York, is the president and administrative director, and Dr. Clayton Powers Bennett is vice president. Among those on the advisory board are: Drs. Joseph M. Bennett, Providence; Colis S. Carter, New York; D. H. M. Gillespie, accident surgeon of the New York Central Railroad, and Russell McCausland, Boston. The society will study the mental and physical causes of all kinds of accidents and the various ways and means of avoiding them, and will spread this knowledge through its members and through the various channels of nationwide publicity, including the press, screen and radio.

New York City

Eye Conservation Classes.—Courses for home teachers of the blind and teachers of conservation of vision classes will

be given at the Columbia University summer school session, July 10 to August 18, under the supervision of Robert B. Erwin of Cleveland.

Society of Cinematographic Instruction.—The Society of Cinematographric Instruction in Medicine and Surgery held its inaugural meeting, April 28, at the New York Academy of Medicine, under the presidency of Dr. James S. Edlin. The vice president, R. Ottolengui, D.D.S., discussed the value of the work, emphasizing that, to his knowledge, this was the first time the medical and dental professions had joined hands to promote cinematography to their mutual advantage. This society was incorporated, Nov. 19, 1921, for the advancement of science, the art of medicine and allied subjects by means of cinematographic reproductions.

Hospital Fund Distributed.—During the past year the United Hospital Fund has collected $525,000, which has just been distributed among the fifty-seven hospitals which share in the fund. The distribution was based generally on the amount of free treatment given by each hospital. The total number of patients treated in the hospitals participating in the fund this year was 195,261, of whom 60,000 were treated free. Among the general hospitals, Mount Sinai heads the list, receiving $34,017. Then follow St. Luke's, with $30,919; New York, with $22,673; the Presbyterian, with $19,548. Montefiore Home received the largest contribution, $37,295.31.

NORTH CAROLINA

Hospital News.—Bids were opened May 10 for the construction of the new $125,000 building for the Lincoln Hospital, Durham.——Plans have been completed for a new hospital to be established at Greer.——The Asheville Normal School is remodeling a building for use as a hospital at a cost of $10,000.

OHIO

State Medical Meeting.—At the seventy-sixth annual meeting of the Ohio State Medical Association held in Cincinnati, May 2-4, under the presidency of Dr. Wells H. Teachnor, Columbus, the following officers were elected for the ensuing year: president, Dr. Robert Carothers, Cincinnati; president-elect, Dr. Joseph S. Rardin, Portsmouth, and treasurer, Dr. Herbert M. Platter, Columbus. Dayton was selected as the meeting place for the next annual session. Dr. Carothers was presented with a gavel made from the flagpole that carried the first American flag in Europe in the World War, the organization being Base Hospital No. 4. Among resolutions adopted was one that the Sheppard-Towner act will not function in the best interests of the public; and it was resolved that the Committee on Public Policy and Legislation be directed to use every honorable means to deter the Ohio legislature from the appropriation of any money for the purpose of providing medical attendance under the provisions of the said law.

OKLAHOMA

Secretary Retires.—Dr. Fred H. Clark, Oklahoma City, secretary of the Medical Association of the Southwest for nearly seventeen years, has retired from the secretaryship to accept an appointment with the U. S. Public Health Service at the U. S. Veterans' Bureau Hospital No. 79, Dawson Springs, Ky. His retirement was effective May 1. Dr. William H. Bailey, Oklahoma City, will finish the year as secretary of the association.

OREGON

Physician Sentenced.—A report states that Dr. Joseph M. Murphy, Portland, was sentenced to six months in the county jail following conviction of violating the federal prohibition law. Report states he was accused of selling a concoction containing denaturated alcohol and glycerin.

Hospital Changes.—Dr. F. N. Gordon, Baltimore, has been appointed superintendent of the U. S. Public Health Service Hospital, Portland, to succeed Dr. Newton E. Wayson, who has been assigned to the laboratory division of the service at San Francisco. Dr. A. J. Campbell has been appointed assistant to Dr. Gordon.

Shrine Hospital.—One of the hospitals for crippled children which are being erected by the Shriners will be located at Portland. The Al Kader Temple has just purchased a 10-acre tract that will be deeded to the Trustees of the National Hospital Board of which the mayor of Portland is chairman. This hospital will have a capacity of fifty beds and will be used solely for orthopedic cases.

PENNSYLVANIA

Radium Fund.—A committee has been formed in Pittsburgh to raise funds for 50 mg. of radium, to be used by Dr. Wilfred Grenfell for the treatment of cancer among deep sea fishermen and their families in Labrador.

Reciprocity with Illinois Modified.—At its meeting, held May 4, the Pennsylvania Bureau of Medical Education and Licensure voted not to accept by reciprocity any physicians licensed in Illinois during 1921, because of the irregularities reported in granting of licenses during that year.

Bedford Lectures.—The College of Physicians of Pittsburgh has announced the institution of a series of lectures, one to be given each year, on the history of medicine, which will be designated the "Bedford lectures," in commemoration of Dr. Nathaniel Bedford, who was the first practicing physician of Pittsburgh. The first lecture of the series was given, April 27, by Dr. Clement R. Jones on the subject of the medical history of Pittsburgh.

Hospital News.—A tri-county tuberculosis and contagious disease hospital will be erected in Dauphin County.——The second annual Hospital Day was observed, May 12. Hospitals in Pennsylvania planned programs of exercises to commemorate the birthday of Florence Nightingale.——The Jefferson Hospital, Philadelphia, is constructing a "hospital hotel" at a cost of $1,500,000.——A nurses' home has been completed at St. Agnes' Hospital, Philadelphia.——The Methodist Hospital, Philadelphia, will have a five story addition, for which the cornerstone has been laid.——The Philadelphia General Hospital has built a separate structure for interns.

Philadelphia

College of Physicians of Philadelphia.—At a special meeting, May 12, resolutions were adopted to appoint a committee to arrange for the celebration, Dec. 27, 1922, of the one hundredth anniversary of the birth of Louis Pasteur. Dr. Eugene L. Fisk, president of the Life Extension Institute, New York, read a paper entitled "Health Extension and Life Extension," and Dr. Earl S. Bullock, Silver City, N. M., read a paper on "A Contribution to Climatic Phthisiotherapy."

Campaign Against "Quacks."—As a result of a campaign recently conducted against fraudulent medical practitioners and "quack" doctors in Philadelphia, by the state board of medical licensure, more than fifty arrests have been made during the past six weeks, and it is stated that 150 additional arrests are pending. Some of these men have obtained medical degrees from schools of medicine in other countries which have no standing in Pennsylvania; while others have conferred "medical degrees" on themselves, and have been doing a profitable business. One negro displayed on the wall of his office a degree of medicine granted by the "East African School of Medicine and Surgery" which he acknowledged that he purchased from the negro cook of a tramp steamer for $2.75.

SOUTH CAROLINA

Society Elections.—The Darlington County Medical Society elected Dr. Alfred D. Gregg, president, and Dr. Julian T. Goggeshall, secretary.——At the annual meeting of the Allendale County Medical Society, Dr. John E. Warnock was elected president and Dr. G. W. Loadholt, secretary-treasurer.——At a meeting of the Oconee County Medical Society, held in Seneca recently, Dr. William C. Marett was elected president and Dr. Edgar A. Hines, secretary-treasurer.——At the first annual meeting of the South Carolina Pediatric Society, in April, Dr. Richard M. Pollitzer, Charleston, was elected president and Dr. E. A. Hines, secretary.

TEXAS

New Hospital for Houston.—Ground will be broken, June 15, and construction will be started on the four-unit Hermann Hospital to be erected at Houston at a cost of approximately $600,000. The institution will have a capacity of 150 beds and is expected to be ready to receive patients within one year.

Personal.—The state health officer has announced the appointment of Dr. Mark P. Smartt, Manor, as director of the bureau of communicable diseases.——Dr. Winfred Wilson, Memphis, was elected president and Dr. James J. Crume, Amarillo, was reelected secretary-treasurer of the Panhandle District Medical Society.——Dr. Joseph A. Mullen has been reelected president of the Houston Ophthalmological and Oto-Laryngological Society.

WASHINGTON

Health Officers Appointed.—Dr. Charles G. MacCallum has been appointed health officer of Vancouver to succeed the late Dr. Chalmers.——Dr. J. Bennett Blair has been appointed health officer of Clarke County.

Eagleson Hall.—The new $100,000 home of the Y. M. C. A., Seattle, is to be named Eagleson Hall in memory of James Eagleson, son of Dr. James B. Eagleson of Seattle, who died from influenza at Newport News following his return from France with the A. E. F.

WEST VIRGINIA

Health Officers' Meeting.—At a meeting of the state and county officials of West Virginia held at Cumberland, Md., recently, Dr. William T. Henshaw, Martinsburg, state health commissioner, made the following appointments: Dr. Briscoe R. Ransom, Harper's Ferry, was appointed to the legislative committee of the state board of health; Dr. James H. Wolverton, Piedmont, the preventable disease department, and Dr. Samuel B. Johnson, Franklin, administration of public health.

WISCONSIN

Physicians Elected to Mayoralty.— The following physicians have been reelected mayors of their townships: Dr. Jay B. Brewer, of Jefferson; Dr. William J. Schmidt, of the city of Mayville, and Dr. William H. Weld, of Fort Atkinson.

Personal.—Dr. John V. Wenzel has been elected president of the staff of St. Joseph's Hospital, Ashland.——Dr. James Evans, La Crosse, who received the Croix de Guerre in 1917 for services with the ambulance corps in France, has received the further reward of a scholarship for study in France. Dr. Evans will spend a year under masters of surgery in Paris.

Hospital News.—The new addition at St. Mary's Hospital, Wausau, is completed and has been opened for patients.—— Alterations are being effected at the Madison General Hospital at a cost of $16,500. There will be two new classrooms, a large lobby, a well furnished waiting room, a demonstration room and a library for the nursing staff.——Articles of incorporation have been filed by the Memorial Hospital Association of Burlington, the plan being to establish and maintain a hospital at Burlington as a memorial to the veterans of the World War.——The foundations have been laid for the new sanatorium building at Bayfield, to be erected by the Tri-County Sanatorium.

WYOMING

State Medical Meeting.—The annual meeting of the State Medical Society of Wyoming will be held at Sheridan, June 20-22, under the presidency of Dr. Frederick A. Hodson, Sheridan.

Hospital Items.—The Fort McKenzie War Veterans' Bureau Hospital will be formally dedicated June 22, during the meeting of the state medical society at Sheridan. This hospital will be devoted entirely to caring for neuropsychiatric cases, and will be in command of Major John R. Anderson, U. S. Public Health Service.——The Frances Warren Pershing Memorial Hospital, Cheyenne, was recently opened for the reception of patients. The hospital has been equipped with modern improvements and has a capacity of 185 beds.

CANADA

Soldiers' Civil Reestablishment.—The assistant deputy minister of the reestablishment department has recently submitted a report relative to the vocational rehabilitation of Canadian disabled ex-service men, which says:

> Of a total of 51,708 disabled veterans of the World War who began training previous to last year, 41,912 have graduated. These men were trained in 421 separate industries. Follow-up statistics show that 65.6 per cent. were subsequently employed in the work in which they were trained. . . . . Herein lies the strength of the work in Canada, the limitation of the period of training, at the end of which a man is sent out to a job.

GENERAL

Warning.—Complaint is made that an individual, representing himself as a salesman for several companies manufacturing roentgen-ray apparatus, has been traveling through the Northwest and imposing on physicians by the issuing of checks with unsatisfactory signatures. When last reported, he was at Helena and at Butte, Mont.

Association for the Study of Internal Secretions.— The sixth annual session of the association will be held in St Louis, May 22, under the presidency of Dr. Walter B. Cannon, Boston. All papers read during the convention will be published in *Endocrinology*, the bulletin of the association.

American Laryngological Association.—At the forty-fourth annual congress of the association, in Washington, D. C., May 1-3, the following officers were elected for the ensuing year: president, Dr. Emil Mayer, New York; first vice president, Dr. George Fetterolf, Philadelphia; second vice president, Dr. Lorenzo B. Lockard, Denver; secretary, Dr. George M. Coates, Philadelphia; librarian, Dr. Joseph H. Bryan, Washington, D. C., and treasurer, Dr. Joseph Payson Clark, Boston.

Bill to Transfer Hawaiian Leprosarium.—Transfer of the leprosarium at Kalawao, Hawaiian Islands, to the Territory of Hawaii by the government of the United States is contemplated in a measure presented to the House by Representative Baldwin. The bill provides that the lands and buildings of this leprosy investigating station shall be given to Hawaii, and a deed of transfer be made by the Secretary of the Treasury. All equipment that may be required for the use of the Public Health Service of Hawaii shall also be turned over.

American Public Health Association.—At the annual meeting of the association, held in Washington, D. C., recently, the governing council of the organization decided to appoint a general committee to reorganize the association, after a majority of its members agreed with Dr. L. I. Harris, New York, that the association was led and directed by corporate agencies in increasing numbers. The first meeting of the committee was held, May 4, in New York. Other committees will meet throughout the country, and the results will be compiled and placed before the next annual meeting.

American Society of Tropical Medicine.—At the eighteenth annual meeting of the society held in Washington, D. C., May 2-3, the following officers were elected: president, Dr. George Dock, St. Louis; vice presidents, Drs. Sidney K. Simon, New Orleans, and Joseph F. Siler, M. C., U. S. Army, and secretary-treasurer, Dr. Brayton H. Ransom, Washington. Fifty-five new active members and five new corresponding members were also elected. The annual meeting for 1923 will be held in Atlantic City, N. J., at or about the time of the Annual Session of the American Medical Association.

Law Declared Unconstitutional. — The supreme court declared the child labor law unconstitutional, May 15, when Chief Justice Taft stated that the law attempted to regulate an exclusively state function in violation of the federal constitution and the tenth amendment, and was defended as an excise tax levied by Congress under its power of taxation conferred by the federal constitution. This law was enacted in 1919, to regulate the employment of children under 14 years of age in factories, and under 16 in mines or quarries, by levying a tax of 10 per cent. on the net annual profits of those employing such labor.

Bequests and Donations.—The following bequests and donations have recently been announced:

Grady Hospital, Atlanta, Ga., $500,000, for the establishment of a clinic, by the will of Albert Steiner.

American University, Beirut, Syria, Roberts College and Constantinople Woman's College, $360,000, by the Laura Spellman Rockefeller Memorial.

Jamaica Hospital, Jamaica, N. Y., $40,000; New York Association for the Blind, the School for Hard of Hearing, and the Flower Hospital, New York City, each $5,000, by the will of Mrs. Susie D. Smith.

Nebraska Children's Home Society, real estate and personal property to the value of $35,000, by the will of N. C. Sherman of Gordon.

Mount Sinai Hospital, New York City, $30,000, for the erection of a dispensary, donated by Louis Lipkin in memory of his parents.

Hawley Home for Children, Saratoga, N. Y., and the Saratoga Hospital, each $25,000; Saratoga Cure and Infirmary, $10,000; St. Luke's Hospital, New York, $10,000, by the will of Helen M. Knickerbacker.

Samaritan Hospital, Troy, N. Y., $10,000, for the endowment of a room, by the will of Margaret Fay Brown of Bennington, Vt.

Misericordia Hospital, New York City, $5,000, to the Sisters for endowing a free bed; St. Vincent's Home, St. Vincent's Maternity Hospital and St. Simond's Hospital for Crippled Children, each $3,000, and St. Christopher's Hospital, $500, by the will of Francis J. McGovern.

Bridgeton Hospital, Bridgeton, N. J., $2,000 in liberty bonds, by the will of Mrs. William Martin. Building lots at Chestnut Ridge and other bequests, totaling $2,500, by the late Lorenzo Robbins.

St. Luke's Hospital and Colored Community Service, Greenville, S. C., $1,600 from negroes of the city.

Bethel Memorial Hospital, New York City, $1,000, and the residuary estate of the testator, by the will of Mrs. Mary E. P. King.

Central Maine General Hospital, Lewiston, $1,000, from the charity under the direction of the Woman's Association.

LATIN AMERICA

Hospital News.—A Junta de Beneficencia has been established in Paita, Peru, for studying the ways and means of raising funds for the erection of a hospital in that port. Mr. A. A. Pallete is director of the Junta.

FOREIGN

Congress on Hygiene.—A national congress on hygiene will be held at Naples this month. The principal subjects of discussion will be alcoholism in its various aspects, sexual hygiene and prophylaxis and personal cleanliness.

Naval Medical School at Naples.—After having been closed for seven years, the Scuola di Sanita Militare Marittima has been reopened for graduate courses. The instructors are the higher medical officers of the navy. Prof. C. Belli is in charge.

Scholarships in Ophthalmology at Rome.—Prof. G. Cirincione, of the chair of eye disease at the University of Rome, and a local merchant have presented the authorities with 240,000 liras to found national and international scholarships in ophthalmology.

Leprosy Ground for Divorce.—A bill is now before the House of Assembly in South Africa to make leprosy and incurable insanity grounds for divorce. Detention in a mental hospital for five years is to be considered prima facie evidence of incurable insanity.

Presentation to Physician.—Sir Halliday Croom, emeritus professor of midwifery, University of Edinburgh, Scotland, was presented with a silver salver on the occasion of his retirement and the completion of fifty years of teaching in the Edinburgh Medical School.

Italy Accepts Pharmaceuticals from Germany as Reparations.—The *Riforma Medica* states that the military pharmacy headquarters at Turin has been authorized by the government to take charge of the sale of the chemical products and pharmaceuticals received from Germany to be credited to the reparations account.

Italian Society of Hospital Physicians.—The *Riforma Medica* relates that Professors Bastianelli, Riva-Rocci, Grossich, Nicolich and eight others are organizing the Società Italiana di Medicina e Chirurgia Ospedaliera. Besides the usual aims of such an organization, the society plans to offer supplementary courses to complete the official medical instruction.

Dutch Antituberculosis Society.—The Dutch Central Society for combating tuberculosis recently sent out questionnaires. Many circulars were not answered, so that the actual number of cases of tuberculosis is not known, but it is estimated that 6,000 or 7,000 persons are in need of sanatorium treatment. Answers were returned to only 40 per cent., reporting 16,259 cases of tuberculosis (7,190 in males and 9,069 in females).

Rockefeller Foundation Gifts.—It is announced that the sum of $62,000 has been given by the Rockefeller Foundation to endow chairs of medicine and surgery at the Hongkong University School of Medicine, China.——The site for the new school of hygiene to be erected in London, with the $2,000,000 donated by the Rockefeller Foundation, has been selected at Bloomsbury, in close proximity to the buildings under construction for the University of London.

Plan to Send Netherlands Insane to Gheel.—The *Nederlandsch Tijdschrift* reports that the Netherlands Association of Asylum Physicians has protested to the government against the proposed plan to send certain indigent insane to the Gheel colony in Belgium for purposes of economy and administration. The expense of boarding them there is less than to keep them near their homes. The protest says that it would be inhuman to send these unfortunates to such a different environment, far from their families, and with a difference in language besides. These drawbacks would not counterbalance the advantages of the Gheel system.

New Italian Surgical Journal.—The *Annali Italiani di Chirurgia* has just been founded at Naples by Professor and Senator Pascale of Naples, and Professors Alessandri of Rome, Muscatello of Catania and Roncali of Naples. The editorial staff includes forty-three other leading surgeons of Italy besides a long list of collaborators, but no mention is made of the price or how often the *Annali* is to appear, and the only address given is that of the publishing house, Piazzetta Casanova, Naples. The first number contains four original articles and ten pages of classified bibliographic titles corresponding to November and December, 1921.

Fellowship of Medicine and Graduate Medical Association.—A short course in general medicine was given at various hospitals in London, England, May 1-13. This course will be repeated during the summer, and others of a like nature in children's diseases, tropical medicine, etc. A series of lectures will also be given at the Royal Society of Medicine. May 24, Sir St. Clair Thomson will deliver a lecture on "The Surgical Anatomy of the Nose and Accessory Sinuses." The complete list of lectures, to the end of July, will be forwarded on application to the secretary of the Fellowship of Medicine, 1 Wimpole Street, London.

National Council for Mental Hygiene.—A provisional committee has been formed in England consisting of Sir Norman Moore, president of the Royal College of Physicians, Sir Charles Sherrington, president of the Royal Society, Sir John Goodwin, director-general of the Army Medical Service, and Sir George Newman, principal medical officer of the ministry of health, to organize the National Council for Mental Hygiene, which will hold its first meeting this month. The council will be concerned with the matters to which the National Committee for Mental Hygiene of America and the recently organized Belgian society, "The Ligue d'Hygiène Mentale," devote themselves.

Antiepidemic Conference.—The resolutions of the conference held in Warsaw, March 20-28, which was convened by the Polish government with the approval of the League of Nations, are now available. Twenty-seven powers, Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, Esthonia, Finland, France, Germany, Great Britain, Greece, Holland, Hungary, Italy, Japan, Jugoslavia, Latvia, Lithuania, Norway, Poland, Roumania, Soviet Russia, Soviet Ukraine, Spain, Sweden, Switzerland and Turkey were in attendance at the conference, the object of which was to draw up a detailed report on the epidemic situation in East Europe, and to submit plans for an international campaign. These plans constitute (*a*) immediate measures for checking the spread of epidemics beyond the Russian frontiers, and (*b*) a scheme to aid the Russian and Ukrainian health service in an attack on the centers of the infection. The conference also resolved that these measures should be entrusted to the League Health Organization and Epidemics Commission, on which bodies all states taking part must be represented. The report and recommendations of the conference are to be communicated to the Genoa Conference.

Congress on Mental Hygiene at Paris.—As already mentioned, the French Ligue d'Hygiène Mentale has organized a congress to be held at Paris, June 1-4, 1922, at the Hotel des Sciences Savantes, 28 Rue Serpente. The official notice states that this congress has been organized to serve, in France, as a preface to the first International Congress on Mental Hygiene, which is being arranged to convene in the United States under the auspices of the New York committee of organization of the League for Mental Hygiene in America. The topics appointed for discussion at the Paris meeting are general and appeal to biologists, educators, manufacturers, lawyers, military men and all who are interested in the theoretical and practical problems of mental hygiene, as well as to physicians. Toulouse of Paris will open the discussion on "Mental Hygiene in the Family"; Rabaud on "International Entente for Scientific Research on Mental Hygiene"; Claparède of Geneva on "Applied Psychology in Methods of Teaching"; Lahy on "Selection of Workers in Relation to Mental Hygiene," and Antheaume on "Care of Psychopaths." The fee for nonvoting members of the congress is 10 francs; 25 francs for regular members. The treasurer is Dr. Dupain, 1 Rue Cabanis, Paris, and the secretary, Dr. Genil-Perrin, 99 Avenue de la Bourdonnais, Paris.

Personal.—Dr. Charles S. Myers, director of the psychologic laboratory, University of Cambridge, England, has resigned to devote his time to the work of the British National Institute of Industrial Psychology.——Prof. Lazarus Barlow, who holds the chair of experimental pathology at the Middlesex Hospital School, England, is visiting the United States for the purpose of investigating methods of cancer research and radium treatment.——Dr. B. Eicken has been appointed to the chair of otorhinolaryngology at the University of Berlin to succeed Professor Killian.——Dr. C. H. Brooking, Paignton, England, was the recipient of many telegrams of congratulation on attaining his one hundredth birthday. It is stated that Dr. Brooking is the oldest medical practitioner in England.——Professor Guiart of Lyons has been on an official mission in Roumania and presented decorations sent by the French government to Professor Racovika, senator and director of one of the institutes of the University of Cluj, and to Dr. Jacobovici, dean of the medical faculty. The latter was thus honored for his distinguished service in organizing the campaign against cholera, typhus and relapsing fever in his section. A silver medal was presented also to the wife of Professor Bratu in recognition of her devoted services in the hospitals at the

front. Professor Guiart was accompanied by four other French professors, and the ceremonies were concluded with a banquet.

Deaths in Other Countries

Dr. **George St. George,** Antrim, Ireland, former president of the Ulster Branch of the British Medical Association, died suddenly, April 8.——**Arthur William Bacot,** entomologist to the Lister Institute of Preventive Medicine, died of typhus, April 12, while engaged in investigating the disease in Cairo, Egypt.——Dr. **William Cochrane Murray,** surgeon to the Glasgow Infirmary, Scotland, March 12.——Dr. **H. C. Hall,** assistant at the State Serum Institute at Copenhagen, aged 38. His recent monograph Dégénérescence Hépato-Lenticulaire has already been translated into other languages.——Dr. **J. Bugge** and Dr. **W. Zogbaum,** both prominent physicians of Christiania. The latter had a private radiotherapy institute.——Dr. **R. Kolisch,** privat-dozent for internal medicine at the University of Vienna.——Dr. **S. Raymat Sanchez,** director of the hospital at Remedio, Cuba, president of the board of education and city physician. ——The *Crónica Médico-Quirúrgica* of Havana mentions also the death in Cuba of Dr. **L. Lozano,** Dr. **F. del Rio** and Dr. **W. Fernández Calzada.**——Dr. **A. Stroobant** of Belgium was recently killed in an automobile accident.——Dr. **J. Arranz Gimeno** of Valladolid.——Dr. **Krolunitsky** of Kazan. He worked with Ravaut in France during the war in research on malaria and amebiasis, and returned to Russia, where he has now succumbed to typhus.——Prof. **G. Mazza,** director of the dermatologic clinic at the University of Pisa and dean of the faculty of medicine, aged 64.——Dr. **V. Tratteneco,** instructor in obstetrics and gynecology at the University of Padua.——Dr. **Huot,** chief of the public health service in the French colony of Indo-China after long service in French Africa, organizing the campaign against trypanosomiasis and malaria. The *Presse médicale* mentions further the death of Dr. **Gavaud,** chief of the public health service in the middle Congo region, and pays high tribute to the distinguished services rendered by these two pioneers of hygiene in tropical regions.

Government Services

Contract Let for Negro Veterans' Hospital

The contract for the construction of Veterans' Hospital at Tuskegee, Ala., for negro veterans, at a cost of $1,010,000, has been awarded to Algernon Blair of Montgomery, Ala. The total of $2,250,000 has been appropriated for the immense institution, portions of which will be used in building streets and roads to the site. Award of the contract for the mechanical equipment has also been let, to S. W. Rittenhouse of Washington. The contract covers the installation of boilers, electric wiring, plumbing and other mechanical facilities of the new institution. The hospital is to be completed in nine months. It is the only federal institution in the United States exclusively for negro disabled soldiers.

Bill for Rest Camps for Veterans

Acquisition and construction of rest camps in the various districts of the U. S. Veterans' Bureau for disabled war veterans are provided for in a bill introduced in the House of Representatives by Representative Gallivan. Five million dollars is appropriated to cover the cost of the undertaking, under the jurisdiction of Col. Charles R. Forbes, director of the U. S. Veterans' Bureau.

Pay Bill Passes House

The McKenzie bill, readjusting the pay and allowances of the commissioned and enlisted personnel of the Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey, and the U. S. Public Health Service, passed the House by a vote of 219 to 26. The bill will go immediately to the Senate to be acted on, as the Army and Navy appropriation supply bills are being held up in both branches of Congress in order to include the new pay scale in their provisions. The House defeated an effort by Representative Connally of Texas to eliminate the section of the measure which authorizes the President to fix the money allowance for subsistence to both officers and men in the various branches of the government service in accordance with the cost of living. Representative Alice Robertson of Oklahoma introduced an amendment giving a higher subsistence and room rent allowance to nurses of the Army and Navy, and it was adopted. The amendment increases the subsistence allowance from 60 cents to $1.20 per day, and the rent allowance from $40 to $60 per month for the nurses. By the terms of an amendment that was adopted, former national guardsmen taken into the regular Army are to receive credit at the rate of 50 per cent. for their guard service in determining their pay.

Vacancies for Physicians

It is announced by the U. S. Civil Service Commission that open competitive examinations for physicians will be held, June 14, by the U. S. Civil Service Commission for vacancies in the seventh civil service district (Michigan, Wisconsin and the northern half of Illinois) of the U. S. Veterans' Bureau and the U. S. Public Health Service.

American Legion Camp

The American Legion, with headquarters at Hotel Astor, New York, is conducting a campaign to raise $2,000,000 to establish a camp for tuberculous ex-service men at Tupper Lake in the Adirondack Mountains. Twenty buildings on a 1,200-acre site have already been purchased. It is hoped to have the camp advanced enough to care for 1,700 men during the first year. Dr. Samuel Lloyd is treasurer of the campaign committee.

Veterans' Bureau Takes Over Public Health Service Hospitals

By executive order, effective May 1, President Harding transferred from the control of the U. S. Public Health Service to the U. S. Veterans' Bureau the hospitals operated by the former for the medical care and treatment of World War veterans. This order removes from the supervision of the Public Health Service a large part of the hospital system heretofore operated by it, leaving under its control only the U. S. Marine hospitals. The hospitals turned over number fifty-seven; they have a total bed capacity of 17,577, and patients numbering 13,057. They include all types—that is, hospitals for tuberculosis, neuropsychiatric disorders and general medical and surgical cases. The personnel operating these hospitals was transferred with them, including approximately 925 physicians and dentists, 1,425 nurses, 425 reconstruction aides and 110 dietitians; a total operating personnel of about 11,500 persons.

The commissioned officers are transferred by detail only and remain as officers of the Public Health Service. All other personnel is transferred permanently. The Veterans' hospitals, under the law, are no longer permitted to care for other than veterans. The Public Health Service in its system of Marine hospitals, under the law, is still permitted to care for such veterans as may be sent them, and there remain in these hospitals more than 1,000 such patients.

During its connection with this work, the Public Health Service has furnished medical care and treatment in hospitals under its control to an approximate total of 264,000 veterans. These patients have been furnished an approximate total of 14,397,500 hospital relief days. There has been given a total of 2,042,200 outpatient treatments and 1,459,200 physical examinations have been made.

Conference of Tuberculosis Experts

May 2, at the invitation of the director, a conference of tuberculosis experts met in the Veterans' Bureau. The personnel of the committee of consulting specialists was as follows: Dr. Edward R. Baldwin, Saranac Lake, N. Y., chairman; Dr. James Alexander Miller, president, National Tuberculosis Association, New York; Dr. William L. Dunn, Asheville, N. C.; Dr. David R. Lyman, Wallingford, Conn.; Dr. Harry A. Pattison, New York; Dr. James W. Pettit, Ottawa, Ill., and Dr. Charles S. Rockhill, Cincinnati, Ohio. The conference expressed entire approval of the bureau's hospitalization program, which plans for approximately 9,000 beds. U. S. Veterans' Bureau Regulation 20, with regard to rating, was considered in detail and was approved as being on a sound medical basis. The conference passed a resolution favoring medical supervision and management of veteran hospitals and offered to support the Veterans' Bureau in securing future legislation.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 24, 1922.

Another Martyr to the Study of Typhus Fever

The editorial on typhus fever and its martyrs (THE JOURNAL, April 8, 1922, p. 1054) had scarcely been published when another name had to be added to the list. Mr. A. W. Bacot, entomologist to the Lister Institute, died at Cairo from typhus fever contracted by handling infected lice while carrying out, in conjunction with Mr. J. A. Arkwright, research work on the disease for the Egyptian government. Mr. Arkwright is also suffering from the disease. Bacot was not a physician. Until 1912, when he was 46, he drudged as a clerk in London, but studied entomology as a hobby. In 1910, in conjunction with L. B. Prout, he read a remarkable paper before the Royal Society describing many generations of a moth. His researches established his position as an entomologist, and in that year, when the Indian Plague Commission requested the Lister Institute to undertake a research into the bionomics of fleas, Bacot was invited to assist. His work was so good that, in 1911, he was appointed entomologist to the institute, an appointment which was more than justified.

With Prof. C. J. Martin, he worked on plague, and they discovered the mechanism by which infection is conveyed by the flea. Later, he went to West Africa and attacked the yellow fever problem, on which he made a masterly report. Since 1916, he had concentrated on the study of the louse, advancing our knowledge of its biology and the practical applications of this knowledge. In 1917, he was appointed to the trench fever committee of the War Office, which showed that the disease was conveyed by the louse. He controlled the entomologic side of the inquiry, the feeding of the lice on trench fever patients and the collection of their excreta. In 1920, he went to Poland as a member of the typhus research commission of the league of Red Cross societies. There, during experiments on *Rickettsia*, he contracted trench fever. During the war, he most thoroughly investigated the louse problem—their methods of pairing, laying eggs, their fecundity, length of life and habits. He experimented with insecticides, suspending next his skin packets containing lice. In 1921, he described, at the Royal Society of Medicine, experiments in which, after immersion in 2 per cent. compound solution of cresol, a louse was transferred to sterile water and placed on filter paper to recover. It was then held under a slip of paper on a slide beneath a binocular microscope magnifying 16 diameters, with the anal segments projecting beyond the slip; and, with a capillary pipet, an enema of whipped human blood sufficient to fill the stomach was administered. Bacot belonged to that illustrious line of workers outside the profession, of whom Pasteur was the greatest, who have done much to advance medical science.

Committee of Inquiry on Venereal Disease

The controversy which has been so long raging, described in previous letters to THE JOURNAL, between the two societies formed to combat venereal disease, will be brought before an impartial tribunal. A committee, of which Lord Trevethin (an ex-lord-chief-justice) is chairman and which includes Professors Bulloch, Dreyer and Kenwood, Sir Frederick Mott, a woman physician and others, has been appointed to consider and report on the best medical measures for preventing venereal disease in the civil community, having regard to administrative practicability, including costs. The committee is an unofficial body which has been brought together by a committee of selection consisting of Sir Clifford Allbutt, Sir Anthony Bowlby (president of the College of Surgeons), Sir Walert Fletcher, Sir Archibald Garrod, Professor Kenwood, Sir Norman Moore (late president of the Royal College of Physicians), and Sir John Thomson Walker. Sir Alfred Mond, minister of health, has promised the committee "encouragement and support."

International Exchange of Lecturers

Last year the University of London instituted an exchange of lecturers between England and continental countries. They will be continued this year by professors from Holland and the University of Paris. During May, the following lectures will be given at the house of the Royal Society of Medicine: "The Human Neocerebellum," by Dr. C. Winkler, professor of clinical psychiatry in the University of Utrecht; "Anti-anaphylaxie," by Professor Widal; "De l'erythrémie (Maladie de Vaquez-Osler)," by Professor Vaquez; "Des reflexes de défense," by Professor Babinski. The first lecture will be in English, the remaining three in French. Admission will be free and without ticket.

The London School of Hygiene

As stated in a previous letter to THE JOURNAL, the Rockefeller Foundation has provided the sum of $2,000,000 toward the cost of building and equipping a school of hygiene in London, on the understanding that the British government provide for the staffing and maintenance of the school. Such a school was recommended by a committee appointed in 1921 to consider provision for graduate education. This recommendation was further considered by an expert committee, with the minister of health as chairman. In view of the difficulty of financing the scheme, the whole case was put before the Rockefeller Foundation trustees as one in which they might think it well to cooperate. On the recommendation of the minister of health, the foundation has acquired a site for the school in Gower Street, near the British Museum.

A National Council for Mental Hygiene

An influential committee consisting of the leaders of the profession, and particularly of neurologists and psychiatrists, has decided to form a national council for mental hygiene. Much attention has recently been given to the treatment of functional nervous diseases and minor mental troubles, as is shown by the establishment of hospitals and clinics for their treatment. Many societies and associations, old and young, are engaged in promoting the study of mental disorders and the welfare of the insane, the problems of industrial psychology and the various aspects of mental deficiency. The object of forming the council is that the work of these institutions and societies may be encouraged to expand and add to their usefulness by organized cooperation. The council will help to establish, at general hospitals, psychologic clinics for the treatment of early nervous and mental disorders. It will endeavor to make mental hygiene a more prominent subject in the education of medical students and, by instructing the public in the principles underlying mental health and illness, gradually diminish the enormous waste of time and energy, in all classes of society, which now results from widespread ignorance concerning these questions. The council will be modeled on the National Committee for Mental Hygiene, which has been established in the United States for some years.

The Maori Survival

Among the Polynesian peoples of the Pacific, only the Maoris of New Zealand have shown a capacity for survival and for assimilation of European civilization. Their successful struggle for existence forms a curious exception to the rule that these people are doomed to extinction on contact with a higher civilization. The first census of the Maoris,

taken in 1874, showed a population of 45,470. From that time, their number steadily declined until 1896, when it reached 39,854. Thereafter it as steadily increased until 1921, when, despite losses of men in the war and the influenza epidemic, it reached 52,751. The government statistician comments as follows:

> The cardinal fact emerges that the Maori race retains its virility, and is on the increase. The position is the more satisfactory in that it represents the almost unique spectacle of a native race living with a white race of overwhelmingly superior numbers, and yet able to preserve its own individuality and strength.

The native population is almost wholly rural, and this is held to be the secret of the survival of the race. For many years, the government has safeguarded the native lands. At the same time, the Maori leaders have steadily directed the attention of their people to the advantages of cultivation, and the people have responded. In future years, they may imitate the white man and yearn for the delights of the towns; but, in the meantime, they will have won the first battle with the race-destroying influences of the white man's civilization.

Gift for Cancer Research

A Canadian peer, Lord Atholstan, has given $100,000 to the Imperial Cancer Research Fund, and he offers the same sum as a prize for the discovery of a cure for cancer, without restrictions as to the nationality of the contestants. The award will be made by the Royal Colleges of Physicians and Surgeons of London.

PARIS

(From Our Regular Correspondent)

April 28, 1922.

The Bill on Industrial Insurance and the Medical Profession

The bill on industrial insurance introduced before parliament by the government has given rise to lively discussions. Its opponents say that it is too wide in scope and that, consequently, it will be a heavy financial burden. The insurance grants the insured: (1) in case of sickness or disability, medical and surgical care, medicine and special treatment, as well as a monthly allowance or pension during the time of incapacitation; (2) in childbirth, medical and surgical care, medicaments, and special allowances for delivery and nursing; (3) in old age, a minimal pension, guaranteed at the age of 60; (4) in case of death, an allowance to the family; (5) for each child born, a family allowance; (6) the right, if he has children below 16 years of age to support, to an increase of sickness, disability and death allowances; (7) medical, surgical and pharmaceutic assistance to be allowed the husband or wife, and children aged less than 16 years. The bill applies to all French salaried persons and farmers of either sex whose income or salary does not exceed 10,000 francs a year.

Being unable here to give the financial details of the bill or to discuss the criticism to which it gave rise, I will mention only the technical points interesting the physician. The health insurance operates thus: The insured chooses his physician from a list of practitioners with whom those in charge of the insurance funds have signed a contract and who have agreed on its conditions. Payment is contracted per capita; and to this remuneration is added the amount derived from what is called "ticket modérateur," which is a ticket varying in price from 25 to 75 centimes, according to the group to which the insured belongs, and which is given to the physician when he calls, by the patient. This ticket is intended to reduce the abuse of medical calls by the patients. Each physician is paid in proportion to the number of visits. To prevent abuses, the bill provides for a control of the funds. Thus, the medical points of the bill are: a tariff by contract between the office in charge of the funds and the medical syndicates; a control of physicians among themselves, and a slight increase of the consultation fee or professional call fee paid by the patient under the form of the "ticket modérateur."

This bill has encountered strong opposition on the part of the medical profession. The parliamentary medical group requested Dr. Lafontaine, secretary of the Union des Syndicats médicaux, to give his opinion on the bill in question. Dr. Lafontaine stated that the Union des Syndicats médicaux could not lend its assistance for the creation of an industrial insurance unless three conditions were accepted: (1) unrestricted choice of a physician by the patient; (2) payment of the physician by the visit, and (3) the right to medical secrecy. The first two conditions will probably be easily agreed on, but it is doubtful whether, in social medicine, an organization will ever be made to respect privileged communications integrally.

Psychiatric Statistics in the Army

Dr. André Barbé, who, during the war, was expert alienist in court martial trials, examined 195 soldiers taken before the court, as to their mental condition. While these cases were different one from another, either on account of the accusation, the mental condition of the culprit or the extent and degree of responsibility of the subject, Barbé was able to make a general study of the cases, which he published in the *Annales médico-psychologiques*. The conclusions are that insubordination, disobedience, desertion before the enemy, desertion while on guard, the illegal wearing of decorations, theft and criminal assault are ascribed mostly to the feebleminded, while alcoholics and epileptics are responsible for the more violent acts, such as insult to their superior officers, infliction of bodily harm, murder and rape. The psychic disturbances most frequently observed are mental debility and degeneracy. Then follow, in the order named, chronic alcoholism (often associated with mental debility), periodic mania, psychoses following shock, epilepsy and malaria. A certain number of soldiers (twenty-three out of 195) did not present any mental disturbance, asking to be examined in an effort to lighten the gravity of their cases. If their responsibility is obvious when they do not present any mental disturbance, the same may be true in certain cases of alcoholism and epilepsy. On the other hand, responsibility is lessened in the feebleminded and in those having suffered from concussion or malaria. Finally, imbeciles, those suffering from conditions of mental confusion, the demented and those in delirium are not responsible.

Research at Laboratory of Professor Arthus

Prof. Maurice Arthus, director of the institute of physiology of the University of Lausanne, has invited young students of experimental biology to come for three weeks, from July 24 to August 12, inclusive, to his laboratory, to participate in an experimental research which will begin by study of cobra venom, and take in rapidly the problems of anaphylaxis and immunity. Arthus' offer has no commercial phases, and those who will accept it are not under any financial obligation. Students who wish to avail themselves of this opportunity will write to Professor Arthus, Institut de physiologie, Champ-de-l'Air, Lausanne, before June 15, mentioning their nationality, and enclosing in their letter a brief curriculum vitae and scientific references.

Congress for the Improvement of the Condition of the Blind

The Congress for the Improvement of the Condition of the Blind, to be held in Paris, July 17-23, in commemoration of Valentin Haüy's centennial, will be divided into ten sections: (1) medical questions; (2) teaching; (3) systems and material; (4) questions arising after schooling; (5) new trades; (6) blind women; (7) war blinded; (8) assistance and hos-

pitalization; (9) legislation, and (10) miscellaneous questions. The membership fee of 10 francs should be sent to the general secretary, 56 Boulevard des Invalides, Paris.

Infant Mortality and Depopulation

Paul Strauss, minister of socal hygiene, public charity and social welfare, being deeply interested in the problems of infant mortality and depopulation, has ordered an inquiry in certain departments. Persons best qualified to assist will be asked to lend their services to the administration. This work must be ended in three months.

BELGIUM

(From Our Regular Correspondent)

LIÉGE, April 29, 1922.

Flemish Medical Congress

The Twenty-First Flemish Congress of Medical and Natural Sciences will be held this year in August at Bruges, at the time the other Flemish congresses are held. Thus, Bruges will be the headquarters for several congresses in which the Flemish language will be spoken, including those of philologists, jurists, educators and Flemish artists. Many physicians from Flanders and Holland have already expressed their desire to be present. The principal subjects chosen for discussion will deal with vaccine therapy.

The Teaching of Gynecology in the University of Brussels

The Belgian Society of Gynecology and Obstetrics has unanimously protested against the tendency of the boards of hospitals and scientific societies (meaning the University of Brussels) to deny gynecology the rank of special medical study. The Faculty of Medicine of the University of Brussels has appointed a committee to make a report, from which it will be able to decide whether gynecology can be considered a specialty as important as otorhinolaryngology and ophthalmology. The Belgian Society of Gynecology and Obstetrics cannot remain indifferent to such a question, and it will be unfortunate, to say the least, if those who are in favor of eliminating gynecology obtain the majority of votes, allowing the University of Brussels to eliminate from its curriculum the study of gynecology, as the subject will lose the importance it has acquired if included in general surgery. Monsieur Potvin suggested sending to the Faculty of Medicine the following resolution:

> The Belgian Society of Gynecology and Obstetrics, in its session of April 1, expresses the hope that the Faculty of Medicine of the University of Brussels, before taking a decision concerning the teaching of gynecology in our hospitals, will add to the members of the committee, appointed to study the question, a well known physician who has made a specialty of this important branch of medicine and surgery.

The resolution was unanimously adopted.

Third International Conference Against Tuberculosis

Following the dissolution, during the war, of the International Association Against Tuberculosis, a new international society has been founded, since the armistice, by the countries belonging to the League of Nations and the United States, under the name of the International Union Against Tuberculosis. Conferences against tuberculosis are organized each year in the various capitals of civilized countries. The first conference was held in Paris in 1920, and the second one in London in 1921. The third conference was to be held in Washington; but America, wishing to pay homage to Belgium, relinquished her turn, and the third conference will be held this year at Brussels in the Palais des Académies, July 11-13. The queen of Belgium has granted the conference her patronage, and Monsieur Berryer, minister of the interior, has accepted the honorary presidency. Dr. Dewez, president of the Ligue nationale Belge contre la tuberculose, has been appointed president, and Monsieur Grégoire, governor of the province of Liége, vice president. The general secretaries will be Drs. Derscheid and Falloise. More than forty nations will be represented by official delegates, and the conference will have a considerable social and scientific importance. Three questions are to be discussed at the conference: (1) prophylaxis of tuberculosis in children before and during school age; (2) prophylaxis of tuberculosis in the home by visiting nurses, and (3) the work of the tuberculous during and after treatment. Professor Calmette will hold a conference on the problems of immunity in tuberculosis. At the termination of the conference, visits will be made to all the principal antituberculosis institutions of the country.

VIENNA

(From Our Regular Correspondent)

April 29, 1922.

Atypical Cases of Sporotrichosis in the Present Epidemic

In the last year and a half, a considerable number of cases of sporotrichosis have been reported in Vienna, and lately a direct epidemic of persons affected by this microsporon has been noted. The disease was seen for the first time in this city in 1910, by Schrameck and Stein, and extensive prophylactic measures had to be adopted to check its spread. The new outbreak is no doubt due to the return of children from abroad after a prolonged stay in infected districts. In a lecture dealing with this disease, Professor Arzt presented recently to the Vienna Dermatologic Society a number of patients who showed atypical conditions. The diagnosis of microsporon could be proved by microscope and cultures, but the clinical appearance resembled closely that of herpes tonsurans. The patients had an efflorescence on the head or the body, with scales or marked inflammatory changes, and in three instances the disease was combined with a general exanthem on the body, the first cases of this complication to be noted in Austria. The highly infectious nature of the disease was plainly demonstrated by its spread in a family or among friends, and the lecturer turned the attention of the practitioners to the importance of arriving at a diagnosis before the disease had taken a firm hold. Roentgen-ray treatment, as well as intravenous injections of hexamethylenamin, proved very effective in many cases.

Fight Against Venereal Disease by Moving Pictures

The society for prevention of sexual disease has taken a bold step to spread information among the people as to the nature of venereal diseases and the havoc wrought by them in the human body, hoping thus to prevent a large amount of unnecessary suffering. With the aid of the board of health, a series of films was taken in the outpatient department of a clinic for dermatology and venereal diseases showing the initial stages of gonorrhea in both the male and the female, and the bacteriologic findings in these cases. The conditions produced in both sexes by chronic gonorrhea are shown in another series of films obtained from surgical and gynecologic clinics; also the results of appropriate treatment in the acute and chronic stage.

In a similar manner, excellent films of syphilitic conditions were obtained, showing the initial lesions, their chief localizations, the secondary stages and the destruction produced by gummas in the various organs. The conditions in neurosyphilis or metasyphilis, general paresis and tabes dorsalis are illustrated by films taken in the lunatic asylum, and now and then in addressing an audience the fact is emphasized that the only means of preventing all the fearful consequences of disease is energetic and early treatment by competent physicians, not by quacks; nor should the advice of friends be followed. The whole series of films is now being produced in Vienna in a number of cinemas, men and women being admitted separately. It must be stated that

these exhibitions are in no way indecent, but are purely instructive, being the modern scientific method of spreading useful knowledge, chiefly intended for the males and females of the ages when exposure is most common. A committee of experts and teachers was asked to give an opinion on the advisability of showing these films to the more advanced college classes and the university students, and it is noteworthy that all agreed that this would be very desirable.

Graduate Medical Work in Vienna in 1921

The Vienna medical faculty publishes a short report on the graduate classes conducted at the university last year, and we learn that there were four groups of classes, covering the entire scope of medical art: (1) courses lasting four weeks at least, repeated every other month, and open only to Austrian physicians; (2) monthly classes on selected topics, to be held only if a sufficient number of physicians applied; (3) the ordinary lectures at the university, open to all matriculated students of the university, and (4) international graduate lectures, presented in February, June, September and December. The graduate lectures, lasting twelve days each, were given by clinicians both on theory and on practical work, by privatdozents and assistants, and care was taken that each man lectured on the subject which covered his special domain, thus insuring the most modern instruction. In February, the subjects selected were progressive materia medica and the border cases; in June, progress in surgery, orthopedics and gynecology; in September (chiefly country practitioners were instructed) the latest achievements in medicine, and in December, courses in dermosyphilology, otorhinolaryngology and ophthalmology. These international classes were a happy idea, as shown by the attendance of about 170 physicians from other countries (Poland, Russia, Czechoslovakia, Japan, Roumania, United States, Switzerland, Holland and other states). They will be repeated in 1922. The February class on diseases of the stomach and intestines has already convened, with even more success than last year.

The "Housing Out" of Children in 1921

When the foreign relief missions working in this city instituted the sending of underfed children to foreign places as guests for a few months in order that they might be properly fed (this was in July, 1919), the results were so excellent that the organization built up at that time was continued. Further, it was nationalized, i. e., each mission took into its own hands the matter of obtaining in its own country the necessary accommodation for the children. Thus, in 1920, no less than 123,520 children between 7 and 14 years were temporarily "expatriated." On their return their condition as regards weight and health was compared with their original condition. A gain in weight up to 30 per cent. was noted in quite a few, while an increase of from 12 to 15 per cent. of the original weight was nothing unusual.

In 1921 conditions of life having improved meanwhile in this country, in Vienna chiefly, the number of children sent out was fewer, 42,705. While in 1920, Holland and Switzerland each took over 30,000 children; in 1921, Holland was visited by only 15,000, and Switzerland by only 4,400. Gradually this system of boarding the children out is being abolished, for instance, only thirty-two children were sent to England last month, against 1,400 last year; 1,420 to Sweden, against 7,450, and 226 to Italy, against 5,566. With the end of the first half of 1922, this will be done away with altogether. It must be stated that the method proved most beneficial in restoring the half-starved, underdeveloped and sickly looking offspring of the middle classes, who were the chief sufferers, to the comparatively well looking, bright, fairly normally developed youngsters, who can be seen now in the schools and streets. The small percentage of underfed and undersized children still encountered in schools is partly due to irreparable chronic disablement caused by the privations of the first years of life during war time.

Proposed Legislation on Prohibition of Marriage of Diseased Persons

An act has been introduced in the national assembly by two political parties, dealing with the prohibition of marriage of persons suffering from hereditary or infectious disease. The chief article runs:

> The government states that any person desiring to marry must produce a certificate of health, signed by an officer of public health. A marriage between persons of whom one or both suffer from special hereditary conditions or incurable infectious disease or irreparable bodily faults shall not be permitted.

The reasons for seeking legislative interference with this hitherto purely private act are given as follows: Sexual disease, alcoholism and tuberculosis are very widespread now in this country. High infant mortality and sterility are menacing the regeneration of the population. The procreation of children must be regarded as a duty toward the community; therefore, only healthy offspring should be aimed at or permitted. The act puts it in a very drastic way: "Father Alcohol and his children, Sexual Disease, Tuberculosis and Psychic Disease cooperate to destroy the health of the people and thus ruin their future prospects." The present government is not strong enough to carry the bill through, but it is hoped that, with the example set by the magistrates of Vienna, who, prompted by similar aims, have instituted a facultative marriage examination free from compulsion, public opinion will enable putting the scheme into action within a reasonable time.

Appearance of Scurvy and Rabies in Vienna

At the Vienna Medical Society, Professor Knöpfelmacher recently presented six children, all of whom showed distinct evidence of scurvy. In three cases, the attack was so severe that the patients were unable to walk. All the patients came from one institution. An investigation revealed the fact that the food in that institute was deficient in its vitamin contents; i. e., it was lacking in green vegetables, in raw fruits and in meat. The bill of fare handed out to the children consisted chiefly of tinned milk, bread, rice and starchy food, with hardly any vegetables or meat. The lack of potatoes especially was felt most keenly by all public feeding organizations and the necessity of introducing vitamin-containing articles into the regular menu of all institutions intended for mass feeding-schools, war kitchens, prisons, hospitals or convalescent homes, was emphasized by numerous men. In fact, the Medical Society of Vienna has urged the board of commerce to permit the hitherto forbidden import of lemons and oranges for this reason, a request which was immediately granted.

Quite a number of persons have applied for treatment against rabies within the last few weeks. It appeared that a stray wolf-dog attacked a large number of persons and other dogs and had infected them before he could be killed. Most of the injured persons applied for treatment after learning the nature of the disease, but numerous dogs which had been bitten remained undiscovered and proved a new source of scattering the disease. Thus, a rapidly increasing number of cases were reported, and public warnings had to be issued in the daily papers. All persons coming in contact with dogs, cats, horses and cattle are instructed to be on the lookout for such a dangerous condition among the animals, and free treatment is given to all persons and animals either manifestly infected or suspected. In this country we have a diagnostic laboratory in the veterinary college in Vienna and a special therapeutic institute for prophylactic vaccination against rabies, owned by the government.

BERLIN

(From Our Regular Correspondent)

April 22, 1922.

Hypnosis in Relation to Murder

In a work entitled "Hypnotismus und Medizin," Loewenfeld, the neurologist , of Munich, discusses the forensic importance of hypnosis, and deals especially with the question whether hypnotized persons may commit murder. Hypnotized persons are sometimes induced, while in the hypnotic state, to make murderous attacks on persons designated—imaginary weapons, such as a ruler or a penholder, being handed to them to use as a dagger, or they may be given unloaded firearms with which to execute the suggested crime. While persons so hypnotized will, at times, carry out the suggested acts, it has been observed that in the majority of instances hypnotized persons are able successfully to resist not only suggestions of a criminal character but also harmless suggestions that outrage their feelings and principles or are opposed to their best interests. Loewenfeld does not ascribe to hypnotic suggestion the power that many assign to it—a power that reduces the hypnotized subject to a mere tool of the hypnotist. Ethical principles of a high order afford active protection against criminal, immoral and improper suggestions of all kinds. On the other hand, he admits that mentally and, more particularly, morally inferior persons do not possess the power of inhibition necessary to resist criminal suggestions. Experimental proof that a subject can be hypnotized against his will is furnished by Dr. Costa in Number 11 of the current volume of the *Deutsche medizinische Wochenschrift*. He put his brother, aged 27, against his will, into a deep hypnotic sleep. The young man had, it seems, allowed himself to be hypnotized, but had, unknown to Costa, entertained the purpose of only seeming to be hypnotized, intending, when the proper time came, to throw off the mask. In spite of this resolve, Costa succeeded in bringing about a deep hypnotic sleep. Loewenfeld regards suggestion made to a person in a waking condition as vastly more important, from the juristical point of view, than hypnotic suggestion. Not only crimes but also perjurious statements made by witnesses in court may be inspired by suggestion made to subjects in a waking condition, whereby it becomes extremely difficult to ascertain the truth.

Hamburg's Vital Statistics for 1921

MARRIAGES

The total number of marriages entered into in Hamburg in 1921 was 13,709, which is 2,459 less than in the preceding year, and 659 less than in 1919. In spite of this decrease, the number was still almost 50 per cent. higher than for the year preceding the outbreak of the war (9,362).

BIRTHS

The number of births shows a marked decrease. The total number of births for 1921, including the stillborn, was 20,280, a decrease of 2,043 from the previous year's record, and a decrease of 3,957 from the 1913 record. The number of children per thousand of population was 21.25 for 1920 and 18.59 for 1921, a decrease of 2.66. As compared with the years 1904 to 1913 (25.20), the record for 1921 is 6.61 lower, and when compared with the fifty year period from 1872 to 1921 it is 9.38 lower. In 1917, only 31.19 per cent. of the mothers were primiparas; in 1921 there was 52.73 per cent. In 1920, the proportion of primiparas was about the same. The proportion of secundiparas was somewhat higher than the previous years and corresponded very closely with the proportion for 1917. The number of tertiparas, quadriparas, and so on, equaled, in 1917, 43.40 per cent.; in 1921, only 22.48 per cent. One mother gave birth in 1921 to her twentieth child; two mothers gave birth to the eighteenth, two to the seventeenth and two to the sixteenth child. The highest number of children born of one mother so far recorded was twenty-one (statistics of 1917).

DEATHS

The deaths also showed a marked reduction. There were 13,182 deaths in 1921, as against 14,681 in 1920 and 13,812 in 1913. The mortality rate per thousand of population was 12.08, which is the lowest rate recorded for Hamburg. It was 1.90 below the rate for the previous year; 2.60 below the average rate for the decade preceding the war, from 1904 to 1913, and 6.14 below the average rate for the last fifty years, 1872 to 1921. The infant mortality rate also showed a marked decrease. The mortality rate per thousand infants born living reached the lowest level that has ever been observed. It was only 91.12 as compared with 107.70 the previous year, 147.69 as the average for the ten year period from 1904 to 1913, and 184.47, the average rate for the last fifty years. The percentage of deaths among unmarried persons showed a marked decrease, while a considerable increase was noted among the married, the divorced and the widowed. There were high percentages of mortality from cancer and diseases of the respiratory and circulatory organs, as compared with the records for the period from 1909 to 1913, but low percentages of mortality from contagious diseases and from gastric and intestinal affections. The number of persons dying from tuberculosis was fully 10 per cent. less than in the period from 1909 to 1913.

EXCESS OF BIRTHS OVER DEATHS

In the years just preceding the war, a reduction in the natural increase of population was already beginning to manifest itself, and the excess of births over deaths showed a decrease almost every year. For the five year period from 1906 to 1910 the excess averaged 10.2 per thousand of population; in 1913 it had dropped to 8.81. During the war the excess of births over deaths was changed, from the end of 1915 on, into an excess of deaths over births, which reached its apex in October, 1918, 23.33 per thousand of population. From about the middle of 1919, the excess of deaths was again changed into an excess of births, being exceptionally high in the fall. During 1920, there was an excess of births during every month of the year except February, and in 1921 there was likewise an excess of births for every month except December. The excess of deaths over births for these two months is doubtless traceable to the increased mortality due to the epidemic of influenza. The average excess of births over deaths per thousand of population was 6.55 in 1920 and 5.78 in 1921.

Marriages

William P. McCrossin, Jr., to Miss Leonora Marie Hassinger, both of Birmingham, Ala., April 26.

Daniel B. Coleman to Miss Mary Louise Grim, both of Wellesley, Mass., at New York City, April 27.

Carrol Conway Turner to Miss Marguerite Rebecca Randolph, both of Memphis, Tenn., recently.

Rex Edward Van-Duzen, Dallas, Texas, to Miss Barbara Shaw of Galveston, Texas, recently.

Earle Paul Knotts, Orangeburg, S. C., to Miss Marjorie Todd of Denton, Md., May 3.

Samuel B. Thomas to Miss Evelyn Bretzler, both of Waynesboro, Pa., March 27.

M. Arista Bingley, Chicago, to Miss Annie Hocking of Burnley, England, April 28.

Richard K. Allison to Miss Susan Fitzsimmons, both of Columbia, S. C., May 1.

Deaths

Samuel Lawrence Jepson ⊕ Wheeling, W. Va.; Medical College of Ohio, Cincinnati, 1868; died suddenly, May 2, from cerebral hemorrhage. Dr. Jepson was born in St. Clairsville, Ohio, April 17, 1842; he received his A.M. from Washington and Jefferson College, Washington, Pa., 1865, and his Sc.D. from the University of Pittsburgh in 1907. He studied in Edinburgh, London and Vienna; served as secretary for the U. S. Examining Surgeons and as acting assistant surgeon of the U. S. Marine Hospital Service. For eleven years he was health officer of Wheeling, for eight years state health commissioner, member of the city council, and member, and at one time president, of the board of education. Dr. Jepson was secretary of the board of trustees of the Washington and Jefferson College and of the Wheeling Female College; for three years secretary, and in 1887 president, of the West Virginia State Medical Association; vice president of the Federation of State Medical Examining Boards and of the Conference of Executive Officers of the United States and Provincial Boards of Health in 1916; formerly vice president of the American Public Health Association, and editor of the *West Virginia Medical Journal*.

Charles Rumford Walker ⊕ Concord, N. H.; Medical School of Harvard University, Boston, 1876; bank president; formerly surgeon to the Margaret Pillsbury General, and New Hampshire Memorial hospitals; member of the New Hampshire Surgical Society; at one time member of the state legislature; instigator of the Timothy and Abigail Walker lectures; died, April 22, aged 69.

Laurentine Rouchel, Croghan, N. Y.; University of Buffalo Department of Medicine, 1881; expended most of her income for the establishment and maintenance of the Albany Hospital for Incurables; member of the Medical Society of the State of New York; formerly served at Dr. Elizabeth Bielby's orphanages and dispensary, Lahore, India; died, April 24, aged 76.

Christopher C. Hersman ⊕ Pittsburgh; College of Physicians and Surgeons, Baltimore, 1884; also a pharmacist; formerly on the staffs of the South Side, St. Francis and St. Joseph's hospitals; at one time lecturer on mental and nervous diseases at the University of Pittsburgh; honorary member of the Academy of Science and Arts; died, April 30, aged 68.

James Metcalfe Patterson Chalmers, Vancouver, Wash.; Bellevue Hospital Medical College, New York City, 1888; formerly lecturer on general pathology, University of Oregon Medical Department, Portland; member of the state legislature; formerly served as state medical examiner and city and county health officer; died, April 14, aged 57.

Theodore H. Jones, West Hickory, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1905; formerly a telegraph operator; member of the Medical Society of the State of Pennsylvania; died, April 22, aged 43, at the Buffalo Homeopathic Hospital, Buffalo, following an operation.

Walton P. Allen, Dayton, Tenn.; Medical Department, University of Tennessee, Memphis, 1908; member of the Tennessee State Medical Association; shot his son, wounded his wife, and then committed suicide by shooting himself, while temporarily insane, April 30, aged 39.

Adam Miller Robinhold, Hamburg, Pa.; Jefferson Medical College, Philadelphia, 1913; member of Medical Society of the State of Pennsylvania; served in France during the World War with the rank of captain; died, May 3, at Reading, aged 33, from chronic nephritis.

Robert L. Fox, Brunswick, Ga.; Medical College of the State of South Carolina, Charleston, 1893; Columbia University College of Physicians and Surgeons, New York City, 1896; member of the Medical Association of Georgia; died suddenly, April 27, aged 48.

Marion Joseph Bancroft ⊕ Mobile, Ala.; Medical Department of the University of Alabama, Tuscaloosa, Ala., 1899; formerly associate professor of obstetrics at the University of Alabama School of Medicine; died suddenly, April 20, aged 44, from heart disease.

Walter Mangum Davis, Fairoaks, Calif.; Hospital College of Medicine, Medical Department, Central University of Kentucky, Louisville, 1890; died, May 1, aged 61, at the St. Francis' Hospital, San Francisco, from pulmonary embolism.

⊕ Indicates "Fellow" of the American Medical Association.

Ambrose Augustine Keeley, Fall River, Mass.; College of Physicians and Surgeons, Baltimore, 1905; tuberculosis diagnostitian to the board of health; chief of staff at Bay View Hospital; died, April 5, aged 51, from dilatation of the heart.

George Washington Lowry, Hastings, Mich.; University of Michigan Medical School, Ann Arbor, 1874; member of the Michigan State Medical Society; formerly president of the Barry County Medical Society; died recently, aged 72.

Hugh D. Rodman, Bardstown, Ky.; Medical Department, University of Louisville, 1871; member of the Kentucky State Medical Society; formerly health officer of Nelson County; died, May 4, aged 79; following a long illness.

Lemuel Tibbets ⊕ Rockford, Ill.; Bellevue Hospital Medical College, New York City, 1867; formerly president of the board of pension examiners; at one time on the staff of the St. Anthony's Hospital; died, May 1, aged 79.

Mary Blanch White, Chicago; University of Michigan Medical School, Ann Arbor, 1898; member of the Illinois State Medical Society; died, May 11, at the Evangelical Deaconess Hospital, from acute endocarditis.

Mary Edna Butterworth, Morristown, N. J.; New York Medical College and Hospital for Women, New York City, 1902; formerly resident physician in the Laura Franklin Hospital; died, April 30, aged 43.

Arthur Richard Jarrett, Brooklyn; Long Island College Hospital, Brooklyn, 1879; veteran of the Spanish-American and World wars; for six years a member of the board of education; died, May 2, aged 67.

Sherman Mills, Macks Creek, Mo.; St. Louis College of Physicians and Surgeons, St. Louis, 1903; member of the Missouri State Medical Association; died suddenly, April 28, at Picher, Okla., aged 50.

Hugh Montgomery Bailey, Bushnell, Neb.; Cincinnati College of Medicine and Surgery, Cincinnati, 1891; member of the Nebraska State Medical Association; died, April 13, aged 64, from cerebral hemorrhage.

John H. Egan, Philadelphia; Medico-Chirurgical College of Philadelphia, 1892; member of the Medical Society of Pennsylvania; police surgeon of Philadelphia; died, April 26, aged 49, from heart disease.

Sarah A. Clock, New York City; New York Medical College and Hospital for Women, New York City, 1882; for eleven years a medical missionary in Persia; died recently at Teheran, aged 65.

James A. Hunter, Dallas, Texas; L.R.C.P. and L.R.C.S., Edinburgh, Scotland, 1881; University of Brussels, Belgium, 1883; formerly county and city health officer of Dallas; died, April 26, aged 78.

George Manly Huckabay ⊕ Shreveport, La.; Memphis Hospital Medical College, Memphis, Tenn., 1900; died, April 10, aged 48, at the Touro Infirmary, New Orleans, from traumatic pneumonia.

Thomas B. Cook, Rayville, Mo.; Medical Department University of Louisville, Louisville, Ky., 1883; member of the Missouri State Medical Association; died, April 30, aged 68, from pneumonia.

David Posey Brown, Trenton, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1901; formerly president of the William McKinley Memorial Hospital; died, April 23, aged 44.

Albert B. Randall, Liverpool, N. Y.; Medical Department of University of the City of New York, 1879; member of the Medical Society of the State of New York; died, April 18, aged 67.

Thomas Alexander Dewar, Detroit; Medical Faculty of McGill University, Montreal, Que., Canada, 1893; member of the Michigan State Medical Society; died, April 4, aged 70.

R. Eugene Taylor, Lancaster, Texas; Medical Department, University of Tennessee, Memphis, 1883; formerly county health officer of Brewster County; died, April 21, aged 62.

Robert Lee Blake, Wilton, Va.; Baltimore Medical College, Baltimore, 1905; member of the Medical and Chirurgical Faculty of Maryland; died, April 21, at Baltimore, aged 47.

Charles H. Barron, Rocky Mount, N. C.; University of Maryland School of Medicine, and the College of Physicians and Surgeons, Baltimore, 1868; died, March 17, aged 82.

Horton Frizell, Deasonville, Miss.; University of Nashville Medical Department, 1890; died, April 28, aged 54, at the Baptist Hospital, Jackson, following an operation.

R. R. Ranspot, Lone Oak, Texas; Southwestern University Medical College, Dallas, Texas, 1907; member of the State Medical Association of Texas; died, April 26, aged 49.

Duncan Eugene Davis, Springfield, Texas; Vanderbilt University Medical Department, Nashville, Tenn., 1888; died, May 1, aged 63; from acute indigestion.

Harry R. Layton, Leon, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1874; member of the Iowa State Medical Society; died, May 2, aged 68.

George B. M. Andre, Wheelersburg, Ohio; Miami Medical College, Cincinnati, 1897; member of the Ohio State Medical Association; died, April 23, aged 57.

George W. H. Richardson, New York City; New York Homeopathic Medical College, New York City, 1873; died, April 19, aged 71, from pneumonia.

John Joseph Murphy ✠ Lima, Ohio; University of Michigan Medical School, Ann Arbor, 1881; died, April 13, aged 61, from perforation of the intestines.

Nehemiah Ayer, Woodstock, N. B.; Medical Faculty of McGill University, Montreal, Que., Canada, 1880; died recently, aged 80, from influenza.

Benjamin G. Wilson ✠ Clarion, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1902; died, April 26, aged 45, from dropsy.

Eugene Roger Albaugh, Glenville, Pa.; College of Physicians and Surgeons, Baltimore, 1875; died, April 22, aged 67, from chronic nephritis.

William B. Gregg, Decatur, Neb.; Cleveland Medical College, Cleveland, 1869; died, February 14, aged 79; from cerebral hemorrhage.

Felix Nacht, New York City; New York Homepathic Medical College and Flower Hospital, New York City, 1916; died, April 24, aged 39.

Francis J. Redmond ✠ Fillmore, N. Y.; Eclectic Medical Institute, Cincinnati, 1891; died, March 28, aged 55, from diabetes mellitus.

Asahel E. Briggs, Sacramento, Calif.; College of Physicians and Surgeons, Chicago, 1896; died, April 10, aged 70, from pneumonia.

John Nelson Barnes, Long Beach, Calif.; Bennett Medical College, Chicago, 1914; died suddenly, May 2, aged 42, from heart disease.

Francis J. Fluno, Oakland, Calif.; Chicago Homeopathic Medical College, Chicago, 1885; died, April 23, aged 76, from myocarditis.

Gunder Theodoric Trommald ✠ Portland, Ore.; Rush Medical College, Chicago, 1901; died, March 28, aged 52, from myocarditis.

Augustus H. Guernsey, Glendale, Calif.; Rush Medical College, Chicago, 1870; died, April 22, aged 86, from cerebral hemorrhage.

John A. Dawson ✠ Chicago; College of Physicians and Surgeons, Keokuk, Iowa, 1877; died, May 10, aged 68, from paralysis.

Ulamor Allen ✠ Jersey City, N. J.; Medical Department of the University of the City of New York, 1880; died, April 21, aged 67.

Daniel W. Montgomery, Concord, Texas; St. Louis College of Physicians and Surgeons, St. Louis, 1891; died, March 22, aged 72.

Calvin A. Case, Pleasanton, Calif.; University of Michigan Medical School, Ann Arbor, 1870; died suddenly, April 26, aged 76.

John B. Duff, Cedar Creek, Neb.; College of Physicians and Surgeons, Keokuk, Iowa, 1884; died, March 21, aged 77.

John W. Bowers, Barcamp, Ark. (licensed, Arkansas, 1903); died, February 18, aged 60, from cerebral hemorrhage.

Edwin M. McGee, Ceres, Calif.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; died, April 25, aged 66.

John Parker ✠ Salinas, Calif.; Medical College of the Pacific, San Francisco, 1874; died, April 30, aged 77.

Smith Baker, Camden, N. Y.; University of Michigan Medical School, Ann Arbor, 1871; died, April 23, aged 71.

L. M. Dampeer, Sr., Crystal Springs, Miss. (years of practice); Civil War veteran; died, April 30, aged 91.

Charles Joseph Alger, Ideal, S. D.; Colorado School of Medicine, Denver, 1896; died in March, aged 64.

Charles T. Richardson, Omaha, Medical College of Virginia, Richmond, 1863; died, April 22, aged 83.

Charles Trost, Brooklyn (licensed, New York, 1895); died, April 29, aged 73.

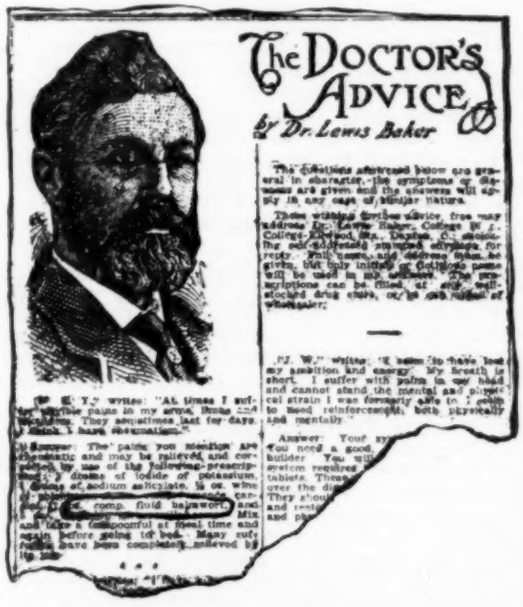
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Compound Fluid Balmwort.—The Blackburn Products Co., Dayton, Ohio., shipped in August, 1918, a quantity of "Compound Fluid Balmwort" which was misbranded. This concern is one of those that has advertised by the "prescription fake" method in which one Lewis Baker conducts a fake "health column" recommending to hypothetical inquirers some of the Blackburn Products Company's nostrums. The federal authorities reported that analysis of a sample of Compound Fluid Balmwort showed the stuff to consist essentially of plant extractives, including bearberry, a large proportion of sodium acetate, alcohol and water. It was claimed on or in the trade package that this preparation was effective as a treatment, remedy and cure for catarrh, rheumatism, dropsy, gout, diseases of the kidneys, bladder and urinary tract, impure blood, pimples, carbuncles, canker and ringworm, "when, in truth and in fact, it was not." These claims were, therefore, claimed false and fraudulent. When the Blackburn Products Co. was given an opportunity to defend the claims it entered a plea of guilty and in February, 1921, the court imposed a fine of $25.00 and costs.—[*Notice of Judgment No. 9751; issued Jan. 11, 1922.*]



Whitlock's Products.—The Whitlock Herb Medicine Co., Inc., of Winchester, Va., shipped in October, 1918, and February, 1919, a quantity of "Whitlock's Child's Laxative," "Whitlock's Cough Sirup," "Whitlock's Cathartic Sirup," "Whitlock's Blood Pills," "Whitlock's Nervine Pills," "Whitlock's Female Cordial," "Whitlock's Kidney and Gravel Medicine," "Red Indian Liniment," "Whitlock's Worm Cordial," "Whitlock's Nerve Pills," "Whitlock's Rheumatic Pills" and "Whitlock's Kidney Pills." All of these were declared misbranded.

Whitlock's Child's Laxative was analyzed by the federal chemists and reported to contain senna, Rochelle salt, sodium salicylate, soda, alcohol and water. It was declared misbranded because it contained on the trade package the claims

"Alcohol 3 per cent." and "a safe vegetable composition." As a matter of fact, the stuff contained 8 per cent. alcohol and was not wholly a vegetable composition but was composed in part of mineral matter.

Whitlock's Cough Sirup was found to consist of plant extractives, licorice, sugar, alcohol and water. This was declared misbranded because the label bore the claim "Alcohol, 30 per cent." when, as a matter of fact, it only contained 15.6 per cent. It was falsely and fraudulently claimed for the cough sirup that it was effective as a treatment, remedy and cure for bronchitis, whooping cough, croup, etc.

Whitlock's Cathartic Sirup was found to contain extracts of plants, including jalap, senna, fennel and peppermint, sugar, alcohol and water. It was falsely and misleadingly labeled "Alcohol, 21 per cent." when, as a matter of fact, it contained only 17.8 per cent. Further it was falsely and fraudulently labeled as an effective treatment, remedy and cure for dyspepsia, biliousness, sick headache, indigestion, gastritis, enteritis, etc.

Whitlock's Blood Pills were found by the federal chemists to contain plant material, including red pepper, aloes, colocynth and scammony. They were falsely and fraudulently labeled as an effective remedy and cure for liver complaints, syphilis, carbuncles, pimples, sores and other affections of the blood.

Whitlock's Nervine Pills were found by the federal chemists to contain plant material, including asafetida, valerian, licorice and an ammonium compound. They were falsely and fraudulently labeled as an effective treatment and cure for insomnia, low spirits, all nervous affections, mental depression, irritability and general debility.

Whitlock's Female Cordial was reported by the federal chemists to contain extracts of plants, including senna and jalap, alcohol, sugar and water. It was falsely and misleadingly labeled "Alcohol 23 per cent.," when, as a matter of fact, it contained less than 14 per cent. It was falsely and fraudulently labeled as an effective treatment, remedy and cure for female weakness, painful, suppressed and profuse menstruation and for all other diseases peculiar to females.

Whitlock's Kidney and Gravel Medicine was found to contain volatile oils, including oil of sassafras, anise and turpentine and alcohol. It was labeled "Alcohol, 60 per cent." but was found, in fact, to contain over 74 per cent. of alcohol. It was falsely and fraudulently recommended as an effective treatment, remedy and cure for all diseases arising from disordered kidneys.

Red Indian Liniment was reported by the Bureau of Chemistry to contain oil of turpentine, acetic acid, ammonium chlorid, alcohol and water. It was falsely and fraudulently recommended as an effective treatment and cure for rheumatism, neuralgia, sprains, burns, pleurisy, diarrhea and all painful affections.

Whitlock's Worm Cordial was found by the federal chemists to contain plant extractives including spigelia and senna, glycerin, a small amount of salicylic acid, sugar, alcohol and water, flavored with methyl salicylate. This was declared misbranded in that the labels failed to bear a statement of the quantity and proportion of alcohol.

Whitlock's Nerve Pills were sugar-coated and found by the federal chemists to contain colchicin, asafetida and extract of hops. They were falsely and fraudulently labeled as an effective treatment and cure for vertigo, nervous dyspepsia, nervous headache and other affections of the digestive system.

Whitlock's Rheumatic Pills were reported by the chemists to contain colocynth, jalap and guaiac. They were falsely and fraudulently recommended as an effective treatment and cure for rheumatism in all its forms and stages, neuralgia affections and painful menstruation.

Whitlock's Kidney Pills, according to the federal report, contained copaiba, extract of cubebs, a trace of oil of turpentine and magnesia. They were falsely and fraudulently claimed to be an effective treatment and cure for affections and diseases of the kidneys and bladder.

In April, 1921, the Whitlock Herb Medicine Co. entered a plea of guilty and was fined $170.—[*Notice of Judgment No. 9800; issued Jan. 11, 1922.*]

Correspondence

RELIEF FOR THE TYROLESE

To the Editor:—The surgical clinic, connected with the University of Innsbruck, is in dire straits, in consequence of which many of the inhabitants of the region cannot receive proper surgical care. When it is appreciated that Innsbruck Hospital is the only hospital for civilians in a district of 500,000 inhabitants, the urgency of the sought-for relief will be appreciated. An abstract of a statement recently made by the Chief of the Surgical Clinic is as follows:

In order to keep the clinic going if possible, the utmost economy must be practiced in the operating rooms and this also causes the greatest injury to the sick people through the insufficient postoperative care and treatment. Through many years of continuous use the supply of instruments for the clinic is almost worn out and needs thorough repairs and the purchase of new supplies. The necessary sum of about 10,000,000 kronen cannot be procured. The proper quantity of sterilized linen is not to be had, and what we have on hand is in such bad condition that asepsis in operating is greatly endangered.

Thread gloves and rubber gloves are lacking, as well as rubber shoes for operating; so that we often do not know, from one operation to another, whether the next one can be carried out successfully or not.

So it is only with the greatest retrenchment which makes operating very difficult, that the clinic can be maintained at all. On account of the lack of linen, alcohol and ether, operations must frequently be postponed. What this means to the patient who must be kept under the nervous strain of awaiting an operation, and the danger to the life of the patient, needs no discussion. It is impossible to see how the clinic can be carried on at all in the future unless fresh supplies of instruments, linen, and so forth, are provided quickly. The poverty of the clinic shows itself most bitterly in the dispensaries; the great number of poor patients who daily visit these must be examined and treated in utterly unsuitable premises, in which the plaster is falling from the walls. Here the deficiency in anesthetics, instruments, bandages and medicines is especially glaring.

Contributions and supplies may be sent directly to the hospital in Innsbruck, or to the undersigned, who will be glad to see that they are properly forwarded. It is hoped that the many Americans who have enjoyed the delightful scenery of the Tyrol in times past and experienced the friendly courtesy of its people will be prompt and generous in their aid. WILLIAM CAMPBELL POSEY, M.D., Philadelphia.

GROWING THE OPIUM POPPY IN THE UNITED STATES

To the Editor:—Certain persons are advocating the total prohibition of opium importations into the United States, contending, as Dr. Carlton Simon, of the New York police, is quoted as saying: "Areas admirably adapted to poppy growing exist in California and elsewhere in America, notably in New Mexico," and he advocates the growing of our total supply of opium as a domestic industry under proper official control.

It is, of course, possible to grow the opium poppy over a fairly wide area; but to produce opium in commercial quantities and of standard quality is quite another matter. It has been tried in both Europe and America, quite unsuccessfully, and the reasons for failure were set forth in the supplement of the *Chemist and Druggist*, April 14, 1906, which gave certain experiences in Australia. These reasons were partly climatic, but also, and of vital importance, the economic fact that it costs vastly more to produce opium in Europe, Australia and America than in Asia Minor, Persia, China, Egypt and India, where labor is very cheap. Even if produced out

of its natural habitat, the quality is poor and the acre production small.

Some have the idea that the opium poppy is a natural wildling with a red blossom; but the facts are quite the opposite. The opium poppy is a cultivated plant, requiring rich soil and heavy fertilization, and the blossom is double and somewhat globular, and commonly is pink. Plants that escape from cultivation are of just as much value as tobacco growing along the roadside would be, and commonly die before blossoming.

To produce opium commercially it is necessary to grow the poppy as a biennial, and it fails unless covered with snow all winter, for rather light frosts kill the plant. Then, too, in the second year, the one of production, the summer must be hot, and there must be no rain or heavy dew in June and July, when the crop matures. Spring sowing results in the production of very poor opium. We do not have anywhere in America a climate adapted to the *commercial* production of opium.

Growing the opium poppy is largely a hand labor proposition, and incising the ripening capsules and scraping of the inspissated juice is wholly so. Furthermore, the labor must be skilled and available on an hour's notice, and willing to take 50 cents for a long-hour day. The successful production of opium requires an astonishing amount of fertilizer.

After the crude opium is grown, the processes of handling for the market, including curing, inspecting, assaying and packing, add additional cost; so that, taking everything into consideration, producing opium is a complex proposition, frequently involving crop failure and other disaster. The Orientals handling this trade are skilled men and, even if we could grow the crop here with some assurance of success, we could not compete on either price or quality.

We will not meet the underworld opium, morphin and heroin menace by disrupting the whole opium market by prohibiting all importations, and by growing, or attempting to grow, poor opium at high cost. It must not be forgotten that opium is a drug of proper and legitimate place, and to upset long established standards for the sake of an experiment is not wise. American-grown opium would be an expensive drug—at least six times as high in price as the imported product—and of poor quality at best. This would not be just to medicine or to the sick and injured persons who need narcotic medication.

THOMAS S. BLAIR, M.D., Harrisburg, Pa.
Chief, Bureau of Drug Control, Pennsylvania Department of Health.

Modern Flour.—Flour produced by the roller mill process has poor dietary properties, said Dr. E. V. McCollum in an address before the International Conference of Women Physicians. The roller mill subjects wheat to a series of breaks or blows which crack the kernel into fine particles, but the germ or embryo of the seed being plastic and oily does not grind to a fine paste and is easily sifted out. The germ of the seed has most of the dietary properties of the leaf. It is a cell structure which under appropriate conditions of heat and moisture is capable of developing into a little plant. The bran layer of the seed is rich in mineral salts which are not abundant in that portion which goes into our bolted white flour. We discard the bran layer and the germ layer, and feed them to domestic animals, and keep for ourselves the less nutritious portion. The same is true today in milling corn and rice, and the reason for this unfortunate custom must be charged to civilization. The milling industry is centered in a few large centers where flour is produced in large quantities and stored may be six months before reaching the ultimate consumer. Bolted flour keeps much better than that which contains the seed germs, in which the oil tends to become rancid in warm weather. Formerly country people had their cereal ground at the local mill, took it home, and made it into bread, perhaps the same day.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

"DOLD'S REACTION IN DIAGNOSIS OF SYPHILIS"

To the Editor:—Please describe the technic of Dold's serum test for syphilis, mentioned in an abstract (THE JOURNAL, April 29, p. 1353).

HERMAN WATSON, M.D., Lakeland, Fla.

ANSWER.—The Dold test is said to make possible a macroscopic diagnosis of syphilitic blood in from two to four hours. A cholesterinized antigen is used, prepared according to the method of Sachs. It is mixed slowly in an Erlenmeyer flask with physiologic sodium chlorid solution in the proportion of 1:10, the result being a fluid slightly opalescent. The blood serum to be used should be clear, although if it is only slightly cloudy the reaction is not affected. The blood serum is inactivated for one-half hour at 55 C.; then 0.4 c.c. is added to 2 c.c. of the antigen and salt solution mixture. For control, 0.4 c.c. of the serum is added to 2 c.c. of physiologic sodium chlorid solution. If the amount of serum available is slight, the proportions of the various agents may be reduced. Every step of the procedure is controlled by positive and negative blood serums so as to obviate, or at least lessen, the possibility of error. If the reaction is positive, the mixture of antigen and serum becomes cloudy, the degree of cloudiness determining the positiveness of the reaction, as in the case of the Wassermann reaction. Within an hour the various mixtures of known positive and negative serums and the controls are compared with the serum being tested. If the latter remains clear, it is negative; if it becomes cloudy, it is positive for syphilis. Dold asserts that 93 per cent. of a large number (600) of serums tested by the Wassermann and Sachs-Georgi tests agreed with his test. The advantages of his test are that no special apparatus is required, and the result can be determined macroscopically in from one to four hours, thus making it available for the general practitioner.

CALORIC VALUES OF COMMON FOODS

To the Editor:—Please tell me how many calories are contained in yolk of egg; white of egg; 1 pint of buttermilk; 1 pint of sweet milk; 1 pound of butter; 1 pound of bread; one five cent bar of chocolate; one ice cream cone; one dish of ice cream; one soda cracker; 1 ounce of oatmeal; 1 ounce of cream; one potato (size of an egg); one slice of bread; one orange; 1 pint of cream; all sugars (1 ounce); one grapefruit.

JOSEPH HALTON, M.D., Sarasota, Fla.

ANSWER.—The following list gives the caloric value for each hundred grams of certain food articles (100 gm. is equivalent to about 3½ ounces):

Eggs, boiled:		Chocolate	631
Yolk	376	Soda cracker	424
Whites	55	Oatmeal	410
Buttermilk	36	Cream	201
Whole milk	72	Potato, raw	85
Skimmed milk	37	Oranges, edible portion	53
Butter	795	Sugar, granulated	410
Bread:		Ice cream, as ordinarily purchased	189
Wheat, home made	270	Grapefruit: Half of the ordinary serving contains about 100 calories	
Brown	231		
Rye	260		

To obtain caloric value of materials in ordinary quantities, as pounds, cup, bottle, etc., reduce to grams and estimate accordingly.

USE OF LARGE DOSES OF MORPHIN

To the Editor:—According to my recollection, Dr. J. W. Chambers, Baltimore, administered 10 grains of morphin sulphate hypodermically to dogs before giving ether for operations. Am I right or wrong in my recollection that 10 grains can be given? —, West Virginia.

ANSWER.—Our correspondent's recollection is no doubt correct. The preferred dose for preliminary anesthesia for the dog is 10 to 20 mg. per kilogram. According to this, an animal weighing 30 kg. would require a dose of 10 grains, or approximately 600 mg. Such dose may, however, safely be given to small dogs as well; for dogs are very tolerant of morphin. The minimal lethal dose for dogs, on hypodermic injection, is generally placed at 0.4 gm. per kilogram. Small dogs weighing 6 or 7 kg. often survive hypodermic injections of as much as 2 gm. (30 grains) of morphin sulphate.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, July 6-7. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 26. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DELAWARE: Wilmington, June 20. Sec., Homeo. Bd., Dr. H. W. Howell, 824 Washington St., Wilmington.

FLORIDA: Tampa, June 12-13. Sec., Dr. W. M. Rowlett, Tampa.

GEORGIA: Augusta, May 31-June 2; Atlanta, June 7-9. Sec., Dr. C. T. Nolan, Marietta.

IOWA: Iowa City, June 1-3. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 20. Sec., Dr. Albert S. Ross, Sabetha.

LOUISIANA: New Orleans, June 8-10. Sec., Dr. Roy B. Harrison, Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 5-6. Act. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 20-23. Sec., Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.

MICHIGAN: Ann Arbor, June 13. Sec., Dr. Beverly D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 6-8. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

NATIONAL BOARD OF MEDICAL EXAMINERS. Written examination in Class A medical schools. Parts I and II, June 19-23 and Sept. 25-29. Sec., Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Applications for the June and September examinations must be sent in, respectively, by May 15 and June 1.

NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, Lincoln.

NEW JERSEY: Trenton, June 20-21. Sec., Dr. Alexander MacAlister, State House, Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 22-25. Asst., Professional Examination, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 26. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 4-7. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.

OHIO: Columbus, June 6-9. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

OREGON: Portland, July 4. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

RHODE ISLAND: Providence, July 6-7. Sec., Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 27. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Knoxville, Memphis and Nashville, June 16-17. Sec., Dr. Alfred B. De Loach, 1230 Exchange Bldg., Memphis.

TEXAS: Austin, June 20-22. Sec., Dr. T. J. Crowe, 918-919 Dallas County Bank Bldg., Dallas.

UTAH: Salt Lake City, July 5. Director, Mr. J. T. Hammond, State Capitol, Salt Lake City.

VERMONT: Burlington, June 21-23. Sec., Dr. W. Scott May, Underhill.

VIRGINIA: Richmond, June 20-23. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WISCONSIN: Milwaukee, June 27-29. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.

WYOMING: Cheyenne, June 5-7. Sec., Dr. J. D. Shingle, Cheyenne.

STATE BOARD NUMBER

Syracuse University

Through a clerical error, the percentage of failures for Syracuse University was wrongly given in the Tables A and B on pages 1299 and 1303, respectively. The percentages for the college are correctly given, however, in Table C on page 1304 under line 52.

Osteopaths in Oklahoma

Reference also was made in regard to six osteopaths who "were licensed as physicians" in Oklahoma. They were technically licensed as osteopaths, but the wording of the Practice Act gives them the same privileges as physicians. This was not made clear in the previous report.

Graduates of 1921

For the graduates of 1921 the figures in Table C were not given accurately for several of the colleges. The correct figures for the institutions named are as follows:

Line	Name of College	Number Examined	Number Passed	Number Failed	Per Cent. Failed
3	Coll. of Med. Evan.	17	17	0	0.0
22	Ind. Univ. Sch. of Med.	57	57	0	0.0
23	Univ. of Iowa Coll. of Med.	43	43	0	0.0
28	Johns Hopkins Univ.	55	55	0	0.0
29	Univ. of Md. Coll. of P. & S.	68	65	3	4.4
30	Boston Univ. Sch. of Med.	16	15	1	6.3
31	Coll. of Phys. & Surgs. Boston.	5	4	1	20.0

South Dakota January Examination

Dr. H. R. Kenaston, director, Division of Medical Licensure, South Dakota State Board of Health and Medical Examiners, reports the oral, written and practical examination held at Pierre, Jan. 17-18, 1922. The examination covered 15 subjects and included 100 questions. An average of 75 per cent. was required to pass. Nine candidates were examined, all of whom passed. One candidate was licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago		(1912)	88.8
Rush Medical College	(1920) 89.9,	(1921)	90.2, 90.5
State University of Iowa College of Med.	(1904) 81.9,	(1919)	87.3, 90.1
John A. Creighton Medical College	(1920) 88,	(1921)	91.7

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
St. Louis University School of Medicine		(1919)	Washington

Miscellany

CLINICAL CHARTS RECOMMENDED BY THE ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

The Plans for Their Use

ALFRED E. COHN, M.D.
Chairman, Research Committee, Association for the Prevention and Relief of Heart Disease
NEW YORK

The Association for the Prevention and Relief of Heart Disease of New York has been impressed by numerous circumstances that it is desirable to accelerate the process of gaining and accumulating information concerning the natural history of heart disease, and especially to learn what is the relation to it of focal infections, tonsillitis, rheumatic fever and other similar diseases. The importance of this inquiry is suggested by: (1) the large number of men during the draft for military service in 1917-1918 who showed evidences of chronic heart disease; (2) the large number of children in the public schools in New York City and elsewhere who seem to be similarly afflicted, and (3) the large and increasing number of deaths from chronic heart disease which occur in the registration area of the United States and in New York City. A number of data, on which certain of these statements are based, are to be found in a recent statement by Emerson.[1]

PLAN FOR THE COLLECTION OF DATA

To obtain information on the factors mentioned and to discover, if possible, the means of preventing the occurrence of these factors, the Association for the Prevention and Relief of Heart Disease, after deliberating almost two years, has evolved a plan. This plan consists, in collaboration with the clinics, or with as many of them as is feasible, in an attempt to collect in a uniform manner data which have a bearing on the important phases of this problem. Obviously, the best method by which this can be done is on charts arranged so as to provide for satisfactory records and for their subsequent statistical treatment. To be assured that the proposed technic of collecting information is practicable, various forms were constructed and, after preliminary trial in the clinics, a standard was adopted. The Association for the Prevention and Relief of Heart Disease is now able to supply these charts to such institutions as are willing to cooperate with it in its plans and purposes.[2]

1. Emerson, Haven: Shattuck Lecture, Boston M. & S. J. 184: 587 (June 9) 1921.

2. The Association for the Prevention and Relief of Heart Disease is prepared to supply these charts at the cost of production. Attention need scarcely be directed to the fact that the labor of their construction was great and involved a not inconsiderable initial cost. The Association will gladly supply single copies free to those who are interested.

CARDIAC HISTORY—First Record 1

ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

Chart 1.—Record of the history. For reproduction here the charts have been reduced one half, the originals measuring 8½ by 11 inches.

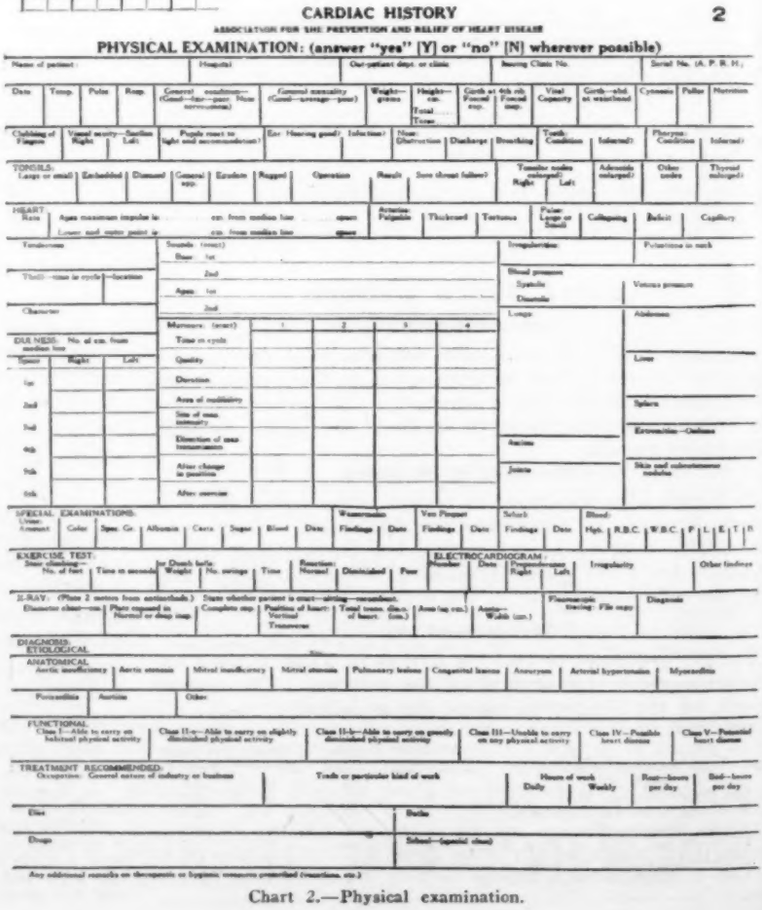
SCOPE OF THE CHARTS

The charts are in some respects elaborate. A single record consists of five parts dealing (1) with the history of the patient (Chart 1); (2) with his physical examination (Chart 2); (3) with the record of the patient subsequent to the first examination (Chart 3), and (4) with an account of his social history (Chart 4). The fifth chart consists of an abstract sheet on which are to be entered the outlines of occurrences to the patient noted while he is in the hospital on account of an attack of heart failure (Chart 5).

It must occur immediately to the reader that a form of record like this is more complicated and requires greater expenditure of time and labor than is at the disposal of physicians in the clinics at the present time. But this impression seems to the Association for the Prevention and Relief of Heart Disease to be justified only under certain circumstances. Unquestionably, this criticism is justified in a clinic having many patients and conducted solely by the medical personnel. It is not the intention of the association, however, to suggest the use of the charts to clinics so organized. The association takes in fact quite a contrary view, namely, that it is only in clinics organized with adequate secretarial and volunteer staffs that it is possible to do the work which it contemplates.

METHOD OF OBTAINING DATA IN THE CLINIC

The association believes that it has evidence to show that, in clinics organized with proper help, more adequate care is possible and more satisfactory records of patients can be made than is now practicable, and that these results can be accomplished with the expenditure of even a smaller amount of time on the part of the physicians in charge than is expended now. Experience has shown that practically the entire data requested on the first record can be adequately obtained by volunteers, with the possible exception of the block of data called "cardiac symptoms" at the lower right corner of the chart. All these data the present system requires physicians to obtain themselves. The physical examination, usually written now by physicians, can be dictated "in toto" to a volunteer worker, as can likewise the data on the continuation form (Chart 3). The information discussed so far can, in short, be filled in by, or dictated to, a volunteer assistant. A volunteer is, in this scheme, required for each physician in the clinic. It is reported that many young women are now eagerly offering service of this kind, so that there ought to be no difficulty in obtaining this aid. The fourth and fifth records are to be kept by statistical clerks especially appointed and attached to the clinics. The statistical clerks, it is estimated, are required at the rate of one to about 300 patients. In addition to the duties just mentioned, the supervision of the work of the volunteers is assigned to them.



CARDIAC HISTORY 2

ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

PHYSICAL EXAMINATION: (answer "yes" [Y] or "no" [N] wherever possible)

Chart 2.—Physical examination.

Instruction as to the proper use of the charts, if this is necessary, is to be supplied to them by the central bureau of the Association for the Prevention and Relief of Heart Disease in New York, acting under the advice of committees of physicians and experts in statistical matters. This is important so that uniformity in the interpretation of the data may be obtained.

CHARTS IN DUPLICATE

Each one of the five charts has been printed in duplicate. In filling them in, it is necessary only to lay ink carbon paper between the folded sheets so that the duplicates can be separated from the originals at the perforated line and may be sent to the central bureau in New York for statistical treatment. The original sheets are to be retained by the respective clinics. Emphasis should perhaps be placed on the fact that the plan does not in any way restrict the activities, rights or opportunities of individual clinics. Quite the contrary result ought to follow. Each clinic can itself collect large amounts of information dealing with its own cases which it can utilize for record, for study, for publication, and in whatever other ways seem useful.

The carbon copies which are to be sent to the central bureau of the Association for the Prevention and Relief of Heart Disease will naturally be viewed from a different point of view from that of the clinics. The conclusions to be drawn by the Association for the Prevention and Relief of Heart Disease will naturally have broader implications and will be based on a greater variety of information. It is only when experiences gained from many sources become available that it is possible to draw conclusions of the sort which the association hopes will become possible.

ADDITIONAL DATA

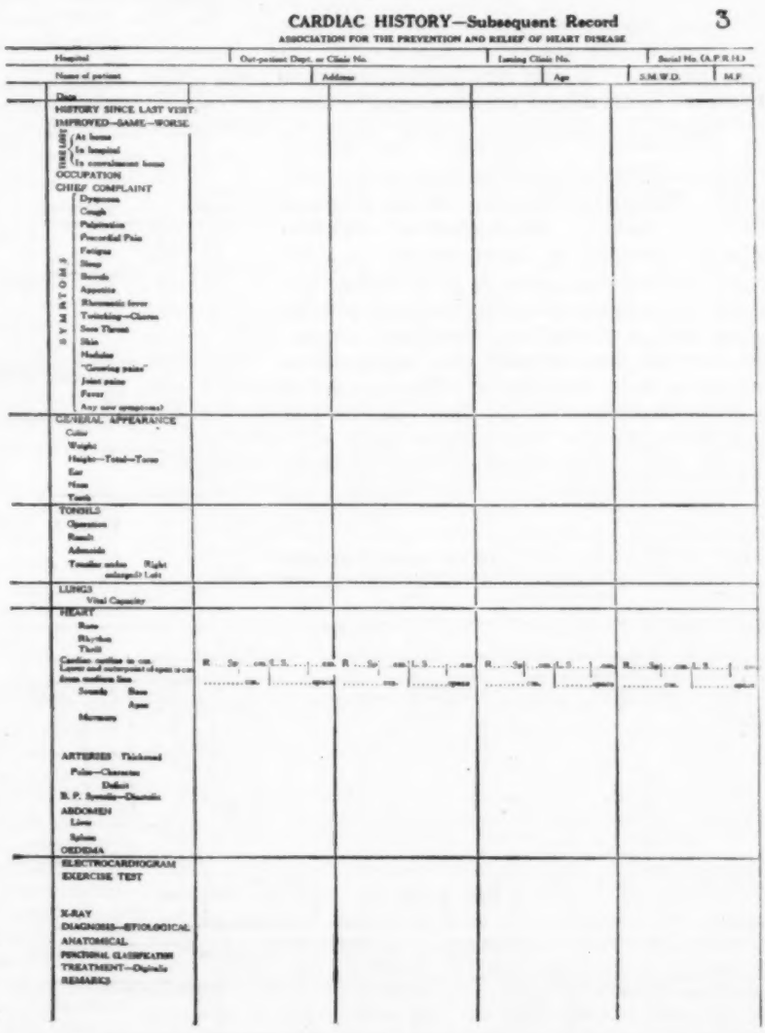
A study of the charts reveals the fact that the plan includes the obtaining of information not only of details at present included in a medical history, but also of certain social relations of the patient, as well as the influence of different forms of treatment on the course of this disease. To obtain information of this kind, space is provided on Chart 1, under the head "occupation of patient" and "previous treatment for heart disease," and on Chart 4, under the headings having to do with the economic status of the patient and his family. The collection of data which are not usually requested and which are of possible value are provided for on Chart 2. These concern vital capacity and other lung volumes, tests for exercise, and a more elaborate method for making diagnoses than has heretofore been customary.

DIAGNOSIS

Diagnosis is regarded as being possible under three heads: etiologic, anatomic and functional.[3] The etiologic diagnosis is based on the history of such diseases as those in the rheumatic group, syphilis, other infectious diseases, and industrial conditions. The nature of the anatomic diagnosis is self-explanatory. The functional diagnosis has been made according to a division into classes adopted by the Association of Cardiac Clinics of New York, and is explained on Chart 2. As to the remaining data asked for on the charts, no more need be said. The charts, it is believed, are sufficiently clear.

COMPLETENESS

A word should be said of the desirability and of the possibility of completely filling in the charts. As one can easily appreciate, completeness will not always be possible. A large variety of information is included, so that should a clinic want it, provision for collecting it is made. The Association for the Prevention and Relief of Heart Disease is naturally concerned in the collection rather of those facts which bear on the public health than on the physical signs in individual cases. It is obvious that completeness from every point of view is not possible in charts like these. The charts include, however, those data which are desired by the majority of physicians at the present time. It need scarcely be pointed out that much space is left both on the face and on the reverse side of the chart for the entry of such notes as seem valuable to individual clinics. Indeed, if an individual clinic desires to undertake a systematic collection of information from some special point of view, it can do so by using a rubber stamp. On the other hand, the Association for the Prevention and Relief of Heart Disease desires that individual clinics fill the charts as completely as possible.


CARDIAC HISTORY—Subsequent Record 3

ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

Hospital | Out-patient Dept. or Clinic No. | Issuing Clinic No. | Social No. (A.P.R.H.)

Name of patient | Address | Age | S.M.W.D. | M.F

Date

HISTORY SINCE LAST VISIT

IMPROVED—SAME—WORSE

TIME LOST: At home; In hospital; In convalescent home

OCCUPATION

CHIEF COMPLAINT

SYMPTOMS: Dyspnoea; Cough; Palpitation; Precordial Pain; Fatigue; Sleep; Bowels; Appetite; Rheumatic fever; Twitching—Chorea; Sore Throat; Skin; Nodules; "Growing pains"; Joint pains; Fever; Any new symptoms?

GENERAL APPEARANCE: Color; Weight; Height—Total—Torso; Ear; Nose; Teeth

TONSILS: Operation; Result; Adenoids; Tender nodes Right enlarged? Left

LUNGS: Vital Capacity

HEART: Rate; Rhythm; Thrills; Cardiac outline in cm. Lower and outermost impulse in cm from median line; Sounds; Rate; Apex; Murmurs

ARTERIES Thickened; Pulse—Character; Deficit; B. P. Systolic—Diastolic

ABDOMEN: Liver; Spleen

OEDEMA

ELECTROCARDIOGRAM

EXERCISE TEST

X-RAY

DIAGNOSIS—ETIOLOGICAL

ANATOMICAL

FUNCTIONAL CLASSIFICATION

TREATMENT—Digitalis

REMARKS

Chart 3.—Record of patient subsequent to first examination. This sheet is double, affording space for nine examinations.

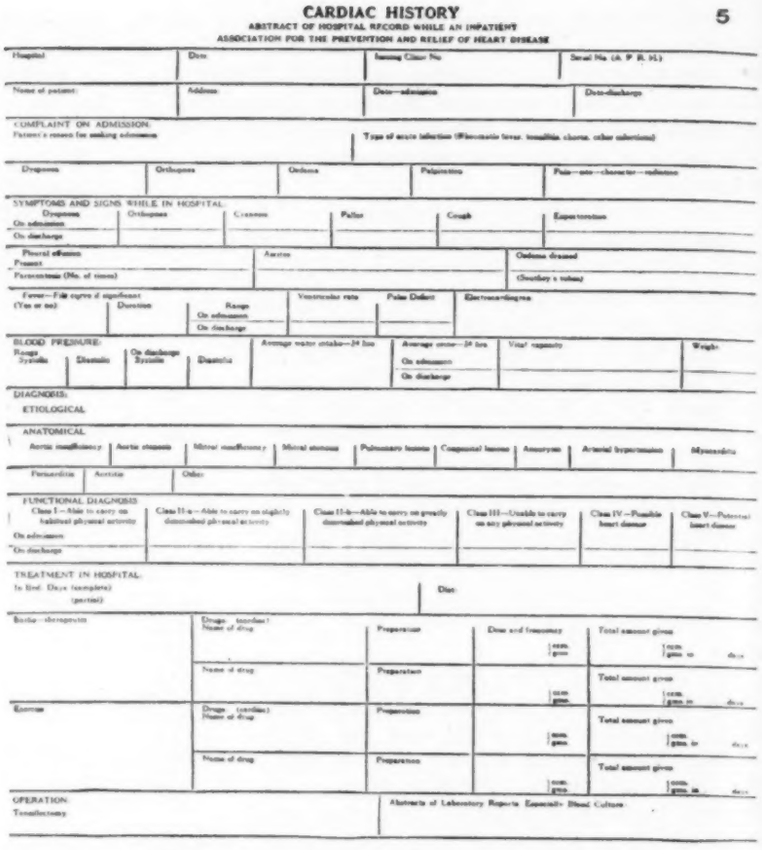
3. The method of diagnosis advised by the Association for the Prevention and Relief of Heart Disease has already been published in a paper by White, P. D., and Myers, M. M.: The Classification of Cardiac Diagnosis, J. A. M. A. **77**: 1414 (Oct. 29) 1921.

RELATIVE IMPORTANCE OF VARIOUS STATISTICS

There are data in the physical examination, such as those having to do with percussion and auscultation, in which individual differences are necessarily great and which, for this reason, are not as useful as other data for the purposes of statistical treatment. It may be pointed out that for the purposes which the association has in view the important data are: the information on the first and second charts having to do with evidences of infection, especially of the tonsils; the size of the heart and the evidences of heart failure, such as edema of the lungs, abdomen, liver and legs; data having a similar bearing on Chart 3; all the data on Chart 4; data on Chart 5 similar to those on Chart 2, and the diagnosis.

JUSTIFICATION FOR UNDERTAKING THE PROJECT

The association is not unaware of the difficulties inherent in carrying out its purposes. It knows that the management of clinics is difficult; obtaining the necessary data is arduous; collating data obtained by different individuals at various places sometimes not directly comparable is hazardous; statistical compilation with the hope of intelligent interpretation of the facts is complicated. The association believes, however, that as time goes on and cooperation becomes increasingly more satisfactory, these charts can easily yield the items of information which are its main objects, such as learning in greater detail and with greater exactitude facts in etiology, the duration of life, the economic status of patients, and the influence of therapeutic measures on these two factors, namely, the duration of life and the social and economic status. The country possesses a large and increasing number of physicians who have had special training and who are especially interested in circulatory diseases, whose aim it must naturally be to aid in increasing information in as accurate a manner, based on as broad a foundation as is possible, and to these this appeal for aid and cooperation is made. For this reason it believes itself justified in initiating this inquiry and in calling to its support the aid of such institutions and individuals as are like minded with itself.



CARDIAC HISTORY 5

ABSTRACT OF HOSPITAL RECORD WHILE AN INPATIENT

ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

Hospital | Date | Nursing Clinic No. | Social No. (A. P. R. H.)

Name of patient | Address | Date—admission | Date—discharge

COMPLAINT ON ADMISSION:

Patient's reason for seeking admission | Type of acute infection (Rheumatic fever, tonsillitis, chorea, other infections)

Dyspnoea | Orthopnoea | Oedema | Palpitation | Pain—site—character—radiation

SYMPTOMS AND SIGNS WHILE IN HOSPITAL

Dyspnoea: On admission / On discharge | Orthopnoea | Cyanosis | Pallor | Cough | Expectoration

Pleural effusion: Present / Paracentesis (No. of times) | Ascites | Oedema drained (Quantity in volume)

Fever—Following operation (Yes or no) | Duration | Range: On admission / On discharge | Ventricular rate | Pulse Deficit | Electrocardiogram

BLOOD PRESSURE:

Range: Systolic / Diastolic | On discharge: Systolic / Diastolic | Average water intake—24 hrs. | Average urine—24 hrs.: On admission / On discharge | Vital capacity | Weight

DIAGNOSIS:

ETIOLOGICAL

ANATOMICAL

Aortic insufficiency | Aortic stenosis | Mitral insufficiency | Mitral stenosis | Pulmonary lesions | Congenital lesions | Aneurysm | Arterial hypertension | Myocarditis

Pericarditis | Acrtitis | Other:

FUNCTIONAL DIAGNOSIS

Class I—Able to carry on habitual physical activity | Class II-a—Able to carry on slightly diminished physical activity | Class II-b—Able to carry on greatly diminished physical activity | Class III—Unable to carry on any physical activity | Class IV—Possible heart disease | Class V—Potential heart disease

On admission / On discharge

TREATMENT IN HOSPITAL

Is bed: Daily (complete) (partial) | Diet:

Basic—therapeutic: Drugs—(cardiac) Name of drug | Preparation | Dose and frequency | Total amount given

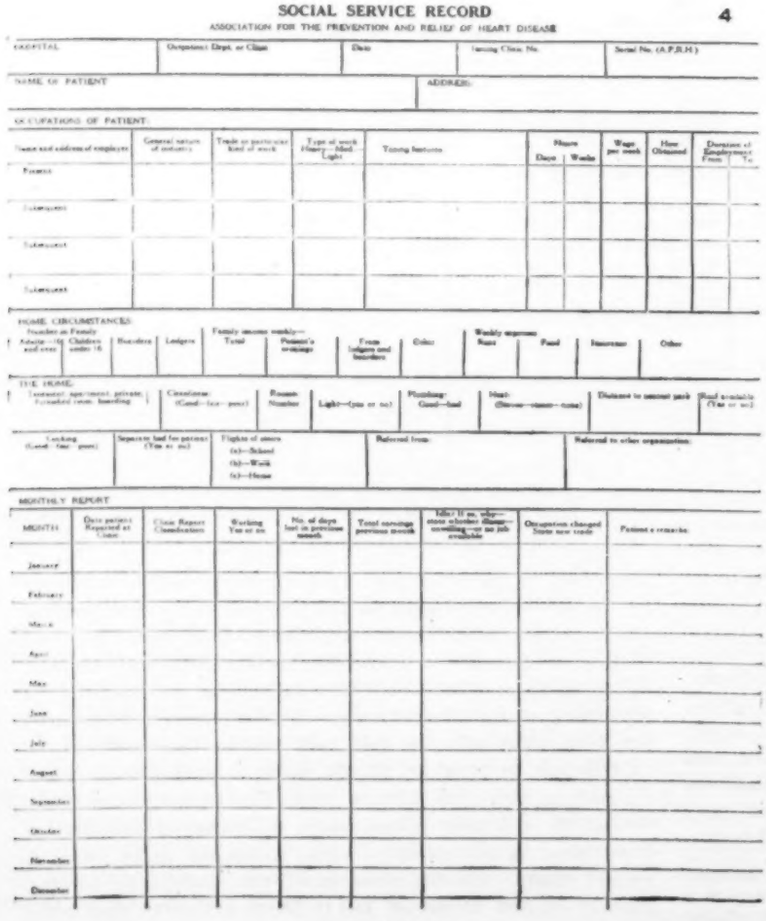
Name of drug | Preparation | Dose and frequency | Total amount given

Enemas: Drugs—(cardiac) Name of drug | Preparation | Dose and frequency | Total amount given

Name of drug | Preparation | Dose and frequency | Total amount given

OPERATION: Tonsillectomy | Abstracts of Laboratory Reports Especially Blood Culture

Chart 5.—Occurrences while the patient is in the hospital.



SOCIAL SERVICE RECORD 4

ASSOCIATION FOR THE PREVENTION AND RELIEF OF HEART DISEASE

HOSPITAL | Outpatient Dept. or Clinic | Date | Nursing Clinic No. | Social No. (A.P.R.H.)

NAME OF PATIENT | ADDRESS

OCCUPATIONS OF PATIENT:

Name and address of employers | General nature of industry | Trade or particular kind of work | Type of work (Heavy—Med.—Light) | Training features | Hours: Days / Weeks | Wage per week | How Obtained | Duration of Employment: From / To

Patient

Subsequent

Subsequent

Subsequent

HOME CIRCUMSTANCES:

Number in Family: Adults—16 and over / Children under 16 | Boarders | Lodgers | Family income weekly—Total / Patient's earnings | From lodgers and boarders | Other | Weekly expenses: Rent / Food / Insurance / Other

THE HOME:

Tenement, apartment, private, furnished room, boarding | Cleanliness (Good—fair—poor) | Room Number | Light—(gas or no) | Plumbing: Good—bad | Heat: (Stove—steam—none) | Distance to nearest park | Bath available (Yes or no)

Cooking (Good—fair—poor) | Separate bed for patient (Yes or no) | Flights of stairs (a)—School (b)—Work (c)—Home | Referred from: | Referred to other organizations:

MONTHLY REPORT

MONTH | Date patient Reported at Clinic | Clinic Report Classification | Working Yes or no | No. of days lost in previous month | Total earnings previous month | If no, why—state whether disqualified—working—or no job available | Occupation changed State new trade | Patient's remarks

January

February

March

April

May

June

July

August

September

October

November

December

Chart 4.—Social history.

Pennsylvania Tuberculosis Society.—The 1921 Year Book of the Pennsylvania Tuberculosis Society records that this society is the oldest of its kind in the world, having been founded thirty years ago. There are now fifty-two persons employed by local tuberculosis agencies in Pennsylvania outside Philadelphia, which city alone employs twenty-one. It is estimated that 500,000 children in this state have been enrolled in the Modern Health Crusade in the sixty-six counties included in the tuberculosis society's territory. The fact that 700,000 pieces of Modern Health Crusade literature, besides 200,000 pins and buttons, have been handled through the society's headquarters, gives some indication of the extent of this work. The death rate from tuberculosis in Pennsylvania in 1909 was 1339 per hundred thousand, and in 1920 was 105 per hundred thousand.

Book Notices

THE GLANDS REGULATING PERSONALITY. A STUDY OF THE GLANDS OF INTERNAL SECRETION IN RELATION TO THE TYPES OF HUMAN NATURE. By Louis Berman, Associate in Biological Chemistry, Columbia University; Physician to the Special Health Clinic, Lenox Hill Hospital. The Macmillan Company, New York, 1921. Price, $3.50.

While the scientific world is engaged in laborious experimental study of the so-called endocrine glands, in an endeavor to establish with certainty the facts regarding their physiology, their relation to one another and their effects on the human body in health and disease, and to determine the existence or nonexistence of various secretions which they are presumed to elaborate, there have appeared among the group who call themselves endocrinologists several persons—one hesitates to call them scientists—who, on the basis of a little knowledge and by the use of their ready pens, present views so far beyond the basis justified by the facts, that they hinder progress and cast a veil of doubt over the points that are clearly known. Some persons have been so unkind as to hint that those who indulge in these fantasies are stimulated by pecuniary motives, for the reason that they are engaged in the manufacture of extracts and other products derived from glandular tissues. But this cannot be said to apply to Dr. Berman, the author of the book before us, for he is not engaged commercially in endocrine endeavors; he is in the department of biologic chemistry of a well-recognized university medical school and evidently practices his profession. Somehow or other, however, the research atmosphere of the university has not served to stabilize the ideas presented in this book, a peculiar conglomeration of fact and fancy so artistically presented as to bring it within the realm of nonfiction best sellers.

The introduction is concerned with "Attitudes Toward Human Nature." It is a philosophical discourse with such extraordinary paragraphs as "The Religion of Science," "The Promise of Eugenics," "The Chemistry of the Soul," and "The Prejudices of Philosophers." The second chapter is devoted to the achievements of Addison, Brown-Séquard, Horsley, Bayliss and Starling; a third chapter to discussions of the thyroid and pituitary; the fourth to the adrenal, gonads, thymus, pineal and pancreas. In these chapters the author confines himself fairly well to known facts, although his diction is hardly that associated with the presentation of scientific material. The pineal he calls "the ghost of a once important third eye at the back of our heads," and he says that "it is interesting that Descartes, in 1628, considered the pineal the site of the soul." Beginning with the fourth chapter the material contained in this preposterous work gradually passes more and more toward the side of hypothesis and fiction. Of "The Glands as an Interlocking Directorate" he speaks as though the matter were completely established, using such alliterative terms as "The Harmony of the Hormones," and "Physics of the Wish." In the chapter entitled "How the Glands Influence the Normal Body," the author, to use a metaphorical expression, casts loose the guide rope and lets the balloon go up. For the rest of this book a scientific review is impossible. Beginning with Chapter 6, the author says: "It needs a poet to chant the epic of sex. The mystery of it puzzled the minds of the earliest Sumerian thinkers." But it does not puzzle Dr. Berman because he knows all about the glands—and then some. He knows the causes of sex and "the secret of the masculine." He condemns the Freudian views, showing that what the Freudians call repression is actually the production of a tension in which an endocrine is decisive. To him everything emotional or expressing emotion is a direct performance of the vegetative apparatus. In classifying types of personality he considers the homosexual as thymocentric. He even describes two types of personality for the pituitary. He amuses himself with eunuchoid and satyric types and at last, in the chapter on some historical personages, he departs entirely from reality and goes further than the most ambitious Freudian in his interpretations of pathologic conditions on the basis of known historical facts. From the character of Julius Caesar he describes the pathology of that statesman's glands. Of Napoleon he says that "it was the pituitary that first failed him rather than the thyroid or adrenal." Of Nietsche he says, "pituitary centered with postpituitary domination and superior thyroid and inferior adrenals," of Darwin, "a neurasthenic genius" who lived in an "environment for which his adrenals sentenced him to destruction," and he suggests that Darwin's survival as a genius "must be put down in large measure to the ministrations of wife and children, who supplied him with the endocrine energy he lacked."

The final two chapters concern "Applications and Possibilities" and "The Effect upon Human Evolution." Thus far the author has presumably been presenting facts; here he is admittedly delving in speculation. From what has been said of the speculative character of his facts, the highly grotesque character of his speculation may be imagined. The book is, after all, entertainingly written. Unfortunately, it will be accepted quite seriously by many laymen, who will regard the author's fancies and interpretations as facts. For his scientific vagaries the Department of Biological Chemistry of Columbia University cannot, of course, be held responsible.

GUIDES FOR HISTORY TAKING AND CLINICAL EXAMINATION OF PSYCHIATRIC CASES. Edited by George H. Kirby, M.D., Director, New York State Psychiatric Institute. Cloth. Price, $1.50. Pp. 84. Albany: New York State Hospital Commission, 1921.

These guides are a final printed form of the typewritten sheets used for history taking and clinical study of mental cases in New York State institutions over a period of fifteen years. They were originally planned by Dr. Adolf Meyer. They have the advantage of natural growth and revision before appearing in printed form, and present a thorough and compact handbook for this type of study. There is a special section on body development and endocrine glands, containing also laboratory tests of glandular function. This and the section on personality, based on the studies of Hoch and Amsden, are the important points of departure from the usual outline used in psychopathic hospitals. In the section on mental examination, use is made of standardized mental tests, and in the section on further psychologic analysis, the contributions of psychanalysis in the form of free association and dream analysis are included. Throughout the text there are valuable hints to examiners, and references to important recent literature. It is an admirable, well balanced compendium, and marks the path of progress in mental investigation, laying stress on the "dynamic factors underlying abnormal emotional reactions."

THE LEUCOSIS OF FOWLS AND LEUCEMIA PROBLEMS. Vilhelm Ellermann, M.D., Professor of Legal Medicine, University of Copenhagen. Cloth. Price, 7 shillings 6 pence. London: Gyldendal, 1921.

The author uses the word leucosis to designate the various leukemic diseases, the nomenclature of which has become complicated and even confusing. The object of the book is to present a summary of the work that the author and others have done on the leukemic diseases of the fowl, which are transmissible and apparently caused by a filtrable virus, thus offering an opportunity for the experimental investigation of leukemic problems. The book is of special interest to students of these problems, and will be a good starting point for new experiments in this field. It is published at the expense of the Rask Oersted Fund (Danish).

ESSENTIALS OF VETERINARY PHYSIOLOGY. By D. Noël Paton, M.D., B.Sc., LL.D., Professor of Physiology, University, Glasgow, and John Boyd Orr, D.S.O., M.C., M.A., Director, Rowett Institute for Research in Animal Nutrition, Aberdeen. Third edition. Cloth. Price, $6.50. Pp. 674, with 245 illustrations. New York: William Wood & Company, 1921.

This book was written to meet the requirements of students and practitioners of veterinary medicine. It will serve that function well. As might be expected, the physiologic data are the same as those in other textbooks purporting to illustrate physiologic processes as occurring in man and the lower animals. Anatomic and physiologic matter pertaining particularly to the horse is given. Although the subject-matter appears in a highly condensed form, the information imparted is up to date and accurate.

Medicolegal

Evidence of Malpractice in Pregnancy Case Sufficient to Go to Jury

(Rainey v. Smith et al. (Kan.), 201 Pac. R. 1106)

The Supreme Court of Kansas says that, in this action to recover damages for alleged malpractice, the plaintiff introduced evidence which tended to prove that she was pregnant and in ill health, and had consulted one of the defendants, a local physician, on a number of occasions. He made examinations from time to time, and first informed the plaintiff that she had a tumor in the mouth of the uterus; and later, after the plaintiff had informed him she was pregnant, said that her condition was not due to natural pregnancy, but that, if she was pregnant, the fetus was in the fallopian tube, and must be removed by an operation or the condition would result in death. He requested her to go with him to the other defendant in Kansas City for a roentgen-ray examination, which would reveal the cause of her trouble. She went with him to Kansas City for that purpose, and they consulted the other defendant, who made a digital examination, and said that a roentgen-ray was unnecessary; that a blind physician could tell what was the matter; that the ailment was pregnancy outside of the uterus; and that it was necessary to have an operation at once. No roentgen-ray examination was made. A few days afterward, the plaintiff went to a hospital in Kansas City, where an operation was performed and it was discovered that the plaintiff was pregnant, but that the fetus was in the uterus and not in the fallopian tube. The incision was closed and in a short time the plaintiff returned to her home. Afterward she gave birth to a normal, healthy child. After the operation, the defendants reported to her that they had discovered a number of tumors in and about the uterus, and that after the birth of the child they must be removed. When the child was born, a hernia developed in the incision that had been made. Some months later, the plaintiff returned to the hospital and was operated on by another surgeon for the purpose of reducing the hernia. He made an incision, examined the abdominal viscera, and found that the fallopian tubes and the appendix were in bad condition. They, together with the ovaries, were removed by him. He discovered no tumors about the uterus, but did discover some scars and adhesions on the omentum, some of which might be called tumors.

The defendants said, in their brief, that is was conceded that if they made a wrong diagnosis, they did not operate in pursuance to such diagnosis, but so far as the hazy evidence of the plaintiff threw any light on the subject, it appeared that they made an explorative operation, on account of the seriousness of the plaintiff's condition, a method which is approved by the best surgeons according to the testimony of a physician who was a witness for the plaintiff. On the trial, the court sustained a demurrer of the defendants to the plaintiff's evidence. But that judgment is here reversed, and a new trial directed. It is unnecessary, the supreme court says, to make any extended comment concerning the manner in which the defendants treated the plaintiff as their patient. It is enough to say that they made a serious mistake in their diagnosis, and that the evidence tended to show that they were negligent in not making a roentgen-ray examination. The demurrer should have been overruled, and the evidence should have been submitted to the jury.

It is the rule in Kansas that negligence of a physician or surgeon must be proved by expert evidence. That rule, however, was satisfied by the testimony of a physician that he thought a six months' fetus would show a shadow on a roentgenogram; that if he diagnosed a case by an abdominal condition and felt positive, without a roentgenogram, that it was a serious case, and one for immediate surgical treatment, he wouldn't bother with a roentgenogram; that there are pregnancies where unusual, extraordinary symptoms appear, which are hard to diagnose, but it is not hard to ascertain whether the condition is a serious one; and that an exploratory operation was not justified if the case was so clear and the diagnosis so plain that, to use the language of the man diagnosing it, a "blind physician could tell what was the matter."

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, May 22-26. Dr. Alex. R. Craig, 535 N. Dearborn St., Chicago, Secretary.

American Association of Anesthetists, St. Louis, May 22-24. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

American Association of Industrial Physicians and Surgeons, St. Louis, May 22-23. Dr. W. A. Sawyer, 343 State St., Rochester, N. Y., Sec'y.

American Proctologic Society, St. Louis, May 22. Dr. Ralph W. Jackson, 245 Cherry St., Fall River, Mass., Secretary.

American Psychiatric Association, Quebec, Canada, June 6-9. Dr. C. Floyd Haviland, Drawer 18, Capitol Station, Albany, N. Y.

Association for the Study of Internal Secretions, St. Louis, May 22. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.

Florida Medical Association, Havana, Cuba, June 30. Dr. Graham E. Henson, Jacksonville, Secretary.

Idaho State Medical Association, Wallace, July 10-11. Dr. E. E. Laubaugh, Overland Bldg., Boise, Secretary.

Maine Medical Association, Portland, June 27-28. Dr. B. L. Bryant, 265 Hammond St., Bangor, Secretary.

Massachusetts Medical Society, Boston, June 13-14. Dr. W. L. Burrage, 42 Eliot St., Jamaica Plain, Boston, Secretary.

Medical Library Association, St. Louis, May 22-23. Dr. John Ruhrah, 1211 Cathedral St., Baltimore, Secretary.

Michigan State Medical Society, Flint, June 7-9. Dr. F. C. Warnshuis, 410 Powers Bldg., Grand Rapids, Secretary.

Montana, Medical Association of, Great Falls, July 12-13. Dr. E. G. Balsam, 222 Hart-Albin Bldg., Billings, Secretary.

New Jersey, Medical Society of, Spring Lake, June 20-22. Dr. William J. Chandler, South Orange, Secretary.

North Dakota State Medical Association, Jamestown, June 1-2. Dr. H. J. Rowe, Lisbon, Secretary.

Rhode Island Medical Society, Providence, June 1. Dr. I. W. Leech, 111 Broad St., Providence, Secretary.

Southern Minnesota Medical Association, Rochester, Minn., June 19-20. Dr. Aaron F. Schmidt, Physicians and Surgeons Bldg., Minneapolis, Secretary.

Wyoming State Medical Society, Sheridan, June 20-21. Dr. Earl Whedon, Sheridan, Secretary.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Sixteenth Annual Meeting, held in Albany, April 18-20, 1922

(Concluded from page 1486)

Diagnosis of Bone and Joint Lesions by the Roentgen Ray

DR. FREDERICK H. BAETJER, Baltimore: There are three age periods of bone: (1) the growing period, from 1 to 20 years; (2) the period of maximal health, from 20 to 40 years, and (3) the period of decline, after 40. Different lesions affect different age periods. Injuries to bone are according to the age of the bone. Take, for instance, the hip: in the first period fracture occurs at the epiphysis, which is the weakest part. In the second period, the epiphysis is united to the neck of the femur and synovial membrane; the synovial membrane slips. In the third period, the bone is more brittle, owing to absorption of calcium salts, and fracture of the neck of the femur occurs. In childhood, the bones are much more flexible and greenstick fractures occur. In older people long oblique fractures occur. In the elderly and aged, comminuted, transverse fractures occur. Disease of the bone is also in relation to age periods. The origin of the lesion is important. By determination of the origin, certain lesions can be ruled out. Bone lesions in children show three age periods: from 1 to 3; from 3 to 6, and from 6 to 14. In the first period the common diseases are scurvy, syphilis and rickets. From 3 to 6 years, tuberculous lesions of the joints are common. From 6 to 14, Perthes' disease is most often seen. There are also laws relating to sex: from 1 to 5 years, lesions are as common in girls as in boys. After 6 years, boys play more dangerous games and suffer a higher proportion of fractures. In men, the heavier trades show a larger percentage of bone lesions. After 50 the two sexes again become equal in this respect. In regard to neoplasms, carcinomatous metastases are more common in the female, following carcinoma of the breast. The most common cause of bone cancer in the male is carcinoma of the prostate, metastasizing into the pelvis and the lumbar spine.

Operative Treatment of Idiopathic Scoliosis

DR. ARMITAGE WHITMAN, New York: These cases exclude scoliosis from well known causes and postural deformities.

They present a class of lesion of unknown origin, usually present in girls aged from 12 to 16 years, with bad posture, poor circulation, offensive breath, etc. Usually it is the dressmaker who notices that a shoulder or hip is too high, and on roentgen-ray examination there is found to be lateral curvature with wedging of the vertebrae. Some of these patients get progressively worse, with serious internal misplacements, which lead to early death. The desultory treatment with jackets, corsets and gymnastics is of little use. Our treatment is to correct by exercises and support as much as possible, and then to practice intervention by fusion of the deformed vertebrae.

DISCUSSION

DR. MACKENZIE FORBES, Montreal: The judgment of the medical profession on the subject of the operative treatment of scoliosis is rapidly changing. Operative procedures have not been proved to stand the test of time. We are still in the experimental stage. We do not think operation is justified, unless to prevent a serious after-condition, such as severe cardiac lesions. In severe scoliosis we are justified in doing a life-saving operation.

DR. R. H. SAYRE, New York: The treatment of scoliosis is preventive rather than curative. Hibbs twists the patient by traction, and then fuses the spine to anchor it. I wonder whether the patients are any more comfortable than with the normal mobility of the scoliotic spine. Is the stiff spine worth while? I believe that structural abnormalities, extra ribs, irregular fifth lumbar, etc., are at the bottom of atypical scoliosis. By supporting patients during the period of bone growth, you can do much to prevent frightful deformities later on, just as you support a child with "bandy" legs to keep it from getting worse.

DR. R. R. FITCH, Rochester: We should operate when the thoracic organs will not have opportunity for proper function. This will spare the patient great disturbance of function and an early death.

DR. JAMES W. SEVER, Boston: Dr. Whitman is unduly pessimistic as to routine treatment of scoliosis by exercise and jackets. Operative treatment should not be done except in cases in which adequate jacket treatment has been used ineffectively for a long time.

Some Factors of Safety in the Preoperative and Postoperative Treatment of Goiter

DR. EMIL GOETSCH, Brooklyn: To combat the thyroid postoperative acidosis which is likely to develop in the first twenty-four hours, we have resorted to the intravenous injection of glucose solution. The metabolic rate test and the epinephrin sensitiveness test are used to determine the type of operation. The glucose solution is given slowly to avoid circulatory embarrassment, the renal threshold level never being exceeded. It is considered that in hyperthyroidism the glycogen reserve is depleted, so that there is no response to the factors calling for glucose. The dosage is from 300 to 750 c.c. of chemically pure glucose, freshly prepared. It is administered as soon as acidosis (indicated by acetonuria) appears. This controls the symptoms and makes the postoperative course more comfortable and safe.

DISCUSSION

DR. CHARLES W. WEBB, Clifton Springs: Our chemist, Dr. Hubbard, has worked out a quantitative method for measuring the acetone output. There is a definitely lowered glycogen storage in these cases. In a case of exophthalmic goiter, with a metabolic rate of 139, there was 0.5 mg. of acetone in 100 c.c. of urine, and 2 mg. of beta-oxybutyric acid the day after operation, coming back to normal in five days. The thyroid patients excrete an excessive quantity of acetone and beta-oxybutyric acid, until controlled by administration of carbohydrates, given intravenously, when not tolerated by rectum, owing to the excessive sensitiveness of the bowel in thyroid disease. An attempt is made to load up patients with carbohydrates before operation, usually candy in some form, to head off the distressing symptoms which make the postoperative course so difficult to handle. Epinephrin hypersensitiveness and metabolic determinations done before operation show what amount of operation the patient can safely stand. These methods are bringing thyroid operations to the same stage of safety as other surgical conditions.

DR. EUGENE POOL, New York: Arguments have been advanced as to whether these cases are medical or surgical. They are neither. They are both. Each patient should receive prolonged attention from a competent medical man. It has been said by some that the Goetsch test is valueless. If it is done exactly as he does it, it is very valuable. Patients with metabolism plus 90, should not be operated on. With the other cases it is a question of the proper time. Three fourths of the patients should receive surgical treatment. Acetonuria is presumptive evidence that there is acidosis, but there may be compensation for the increased production of acetone bodies which are freed by oxidation of the fats. In my experience the use of glucose solution has been of value. In one case, a serious risk, we administered glucose preliminary to operation, and had the best results we had ever had. I have never seen a patient do so well. I am convinced that the method is valuable.

DR. G. R. JAMEISON, Poughkeepsie: The practice of giving glucose intravenously may not be without considerable danger. We concluded that as a large amount of sulphuric acid is used in the preparation of glucose, there is a slightly acid reaction which increases the blood acidity. Therefore, the solution must be used with caution.

DR. G. E. BEILBY, Albany: With better technic and better selection of cases, the operative mortality is almost nil with the best surgeons. The work of Dr. Goetsch opens up a new field. I have not seen what I call acidosis in many cases. There is a very uncomfortable period following operation. There will be a reaction, with increase of thyroid symptoms in about twenty-four hours, but this will stop in thirty-six hours. I avoid this to some extent by disturbing the routine of the patient as little as possible before operation.

DR. T. L. DEAVOR, Syracuse: Why not add Dr. Goetsch's theory to our line of treatment? Do not let us discard any of the things that have helped us. We need them all. I would use rectal administration, but if intravenous will do better, let us use that. We need not forget administration of fluid, rest, separation from friends, etc. Let us put a check on too early operation. Physicians want patients operated on the next morning after hospital admission. That is very dangerous.

Traumatic Backs and Their Treatment

DR. JAMES WARREN SEVER, Boston: This is a common complaint, little understood, frequently ignored, and giving rise to a good deal of harm. Accurate diagnosis is necessary for proper treatment and repair. In regard to the type of injury: Ligamentous tears take longer to repair than muscle tears, and tend to recur. They are usually caused by lifting. Sacro-iliac strain is common, and can usually be relieved by strapping. Manipulation, with or without anesthesia, will reduce sacro-iliac displacements. Slipping forward of the fifth lumbar on the sacrum causes acute discomfort. Camptocormia, or bent back, is a hysterical prolongation of muscle strain. Bad posture, short heel cord and short leg are causes of backache, and can be relieved by tendon stretching. Hypertrophic arthritis in older persons often simulates fracture.

DISCUSSION

DR. MACKENZIE FORBES, Montreal: Most people complaining of injury to the back are really suffering from rheumatoid conditions. The differentiation lies in the fact that rheumatoid conditions are multiarticular and not monarticular. Search of the other joints will confirm the diagnosis.

DR. R. H. SAYRE, New York: Strapping is the best support in these cases, and a useful thing is to punch holes in the straps and pull a lacing through to hold them in place. Support should be used a long time. I have seen cervical paralysis follow too early removal of supports. Tuberculosis of the spine in adults is more common than is generally supposed.

DR. RALPH R. FITCH, Rochester: Strained back should be treated immediately. The patient should be put to bed, in

plaster spica in acute cases. Walking increases strain of the ligaments. In vertebral fracture, operation should be done in many cases.

Procedures for Improvement of Impaired Function of the Knee Joint Due to Extra-Articular Causes

DR. RALPH R. FITCH, Rochester: The knee is a hinge joint which is easily affected by strain of weak or flat feet or incorrect body weight bearing. Rachitic knock knees or bow legs should be treated early, as they cause slipping of the patella. Transplanting fascia to hold the patella in place is helpful, as fascia does not stretch. This will improve the position of the quadriceps and the patellar tendon. Badly united fractures of the leg and thigh cause knee strain; malunion should be corrected. The same is true of malunion of the ankle. In a case of knock-knee from loss of the condyle of the femur, a paper pattern was made from the roentgen-ray tracing, and applied so that at operation a good alinement with the thigh was produced, and good weight bearing insured. In femoral fractures, limitation of knee motion is due to shortening of the quadriceps tendon. This can be freed and the knee flexed and put in plaster. Sometimes knee conditions are due to hip and low back conditions, with reflex pain.

Treatment of Bladder Tuberculosis

DR. EDWARD L. KEYES, New York: Often there are other infections secondary to the tuberculosis which cause ulceration of the bladder wall. The urethra becomes inflamed, often as far as the meatus. Stones can be removed, strictures stretched, and secondary infections treated. Mercurochrome-220 soluble injections, and silver nitrate can be used. Anything that will help to clear up the condition and make things more tolerable for the patient is worth doing.

DISCUSSION

DR. EDWIN BEER, New York: We do not get such extreme cases as we did ten or fifteen years ago, for the reason that symptoms are being recognized earlier, and we see these patients sooner. We must teach men to recognize early irritation of the bladder as something serious and not merely a "cold in the bladder." I think Dr. Keyes' method of using liquor hydrargyri nitratis is a little different from other forms of cauterizing the bladder. It is usually better to treat cases under gas-oxygen anesthesia.

DR. HUNTER, Albany: I think these cases are due not to tuberculosis of the bladder, but to subsequent infection. Some ulcers are tuberculous and should be excised. The other infections can be treated with instillations.

Nitrous Oxid Anesthesia: Its Value as a General Anesthetic in Genito-Urinary Surgery

DR. JOHN J. BUETTNER, Syracuse: This type of anesthesia requires simple apparatus and an experienced anesthetist. It is of great value to the urologist, because his patients constitute poor surgical risks. For these cases, as for others, it is the safest, pleasantest anesthetic. The gas is nonirritating to the lungs and is not eliminated by the kidneys. To produce greater relaxation, 1 ounce of ether can be used with it. Nitrous oxid can be administered with the least amount of psychic trauma, and there are fewer contraindications to its use than any other form of anesthesia.

DISCUSSION

DR. E. L. KEYES, New York: I agree as to its great advantages, especially in deficiency of the kidneys. The urologist must be more careful about anesthesia than other surgeons. In removal of the prostate, in which we want the sutures to heal very kindly, gas-oxygen is preferable to local anesthesia.

DR. EDWIN BEER, New York: Dr. Buettner has emphasized the important points, that is, the safety of gas-oxygen in impaired renal function cases. I do not believe that it is as difficult to administer as the doctor has indicated. We have two nurses who have been trained to do the work like experts. This anesthetic is particularly useful in obstructive jaundice cases.

DR. LOUIS HACKER, Albany: The only reason we do not always use it is that we have an anesthetist in whom we have complete confidence. Otherwise we have been pleased with the results when we have used it. In one woman with tuberculosis a laparotomy was done under gas-oxygen.

DR. W. A. GROAT, Syracuse: I am interested in what Dr. Beer said about nurses being trained to give anesthesia. They can be trained to do complicated things, but that is not a recommendation of the method. I am opposed to laymen practicing medicine.

Some Phases of the Surgery of the Spleen

DR. ROYAL H. FOWLER, Brooklyn: Indications for splenic surgery comprise three groups: (1) injuries, abscess, cysts, new growths; (2) diseases of the blood-forming system, comprising Banti's disease, Gaucher's disease and hemolytic jaundice; (3) pernicious anemia, primary cirrhosis of the liver with splenomegaly, leukemia and polycythemia vera. The results in the latter diseases are variable. Splenectomy figures in leukemia show an alarming mortality. In polycythemia vera the mortality is very high, but some good results have been reported. In cirrhosis of the liver, early operation should give good results. Late operations are fatal.

DISCUSSION

DR. J. M. HITZROT, New York: In some cases, splenectomy reveals a small accessory spleen, attached to the larger organ. With excision of the primary spleen the secondary one rapidly develops and assumes normal proportions.

DR. ROBERT T. MORRIS, New York: The point made by Dr. Hitzrot relating to the growth of a full sized spleen from a small adjuvant spleen, after removal of the larger organ, seems to me to be very significant. It includes the idea that Nature really feels the need for a spleen, and a large one. When the ovaries have been removed, some latent rests of ovarian tissue in the broad ligament sometimes develop into actively functioning organs. On the other hand, when the appendix or the gallbladder is removed, Nature apparently makes no effort to replace them, apparently leaving them in the category of vestigial structures without present-day usefulness.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

Twelfth Triennial Session, held May 2 and 3, 1922, at Washington, D. C.

DR. FRANK BILLINGS, Chicago, in the Chair

SOME ASPECTS OF THE PHYSIOLOGY AND PATHOLOGY OF NUTRITION

Factors Which Enter into an Adequate Diet

DR. E. V. MCCOLLUM, Baltimore: Fifteen years ago it was universally believed that a chemical analysis could inform us as to the physiologic values of food. It was believed that if we knew what the diet should contain in the way of proteins, carbohydrates, fats and mineral salts, we could plan it so as to insure complete physiologic well-being. There has been a great advance in this field of knowledge. We have learned that there is a great variation in the quality of proteins from different sources. There are some very poor proteins, some medium, some good, some excellent, in the natural foods. More significant is the fact that certain proteins, which can be classified as those of poor quality when they serve as the sole source of nutriment, may be enhanced in value by combination with other proteins in the dietary. Thus, proteins of the cereal grains, tubers and fleshy roots are not of high value in nutrition, while proteins of animal tissues are of value and are enhanced by the qualities of vegetable foods. The same is true of the proteins of milk.

Another view that has become well established is that concerning the existence of certain substances which the diet must supply, but which are still uncharacterized chemically, which we call collectively vitamins, and differentiate under the algebraic formulas, A, B and C. Some evidence of a

fourth substance has been discovered. There is a group of diseases, due, as far as we can tell, to the lack of each specific vitamin. The first of these are the ophthalmias of dietary origin, the never failing result of the lack or the inadequate provision of vitamin A in the diet. This vitamin is by no means distributed in the natural food in sufficient abundance to meet the physiologic requirements of men and animals. The second type of disease is beriberi, which occurs in animals as a polyneuritis of dietary origin, and is due to deficiency of vitamin B. A third disease is scurvy, due to lack of vitamin C. The latter substance is the most easily destroyed of the essential food components. There is also a group of diseases which must be regarded as nonspecific, in the sense that more than a single dietary factor is involved in their etiology. Most prominent in this group is rickets. Pellagra is a deficiency disease, which results from faulty nutrition brought about by persistent adherence to insufficient diet.

In all the experimental work carried on in England and this country, many of the experiments described support the theory that as long as we select a food supply from cereal grains, legumes, fleshy roots and muscle cuts of meat, it matters not what the variety or palatability of such a diet may be, it will never support adequate nutrition in animals or in human beings. Certain things are always lacking in such a list of food.

There are only three types of diet which have ever succeeded in the nutrition of men and animals: 1. A strictly carnivorous diet in which all parts of the animal are eaten (muscle tissues of animals are very deficient in a number of respects; one can do no greater damage to the experimental animal than by restricting its diet solely to muscle tissues). When one imitates the dietary habits of the wild carnivora, by giving muscle fats, viscera and bony substances, one gets success with this diet, just as do the wild carnivora in the open. 2. The oriental diet. There are certain substances in the leaves of plants which are not the same as those which serve as starch-forming organs. The Orientals have never eaten meat products, but have consumed quantities of leafy vegetables unknown in the dietary habits of America. These leafy vegetables stand out as a very successful diet, and a large number of people subsist on a diet in which these vegetables play a large part. 3. The mixed diet typical of our country in great measure. In our national dietetics there is too large a proportion of food derived from highly milled cereals—rice, white bread and other cereal products, in addition to muscle cuts of meat, potatoes, sugar, etc.

The result of that diet I believe that we see now in the prevalence of skeletal defects, rickets and malnutrition in a large percentage of children in the public schools. A series of measurements and weighings of children have demonstrated that from 20 to 30 per cent. of schoolchildren are underweight for their age. Another factor of great practical importance is the relation of diet to preventive dentistry. Accumulation of evidence shows the relation of faulty diet of various kinds to defects of the teeth. There can be little question that the present high incidence of dental caries and the unhealthly condition of the jaw tissues about the root canals depend on a lack of elements which are needed for the production and optimal development of the teeth when forming. Supplying the proper dietary factors is the only way we can carry out a reform which will lead to the better dentition of our people. Certain classes of food should enter more prominently into our diet than they do at present; these are mainly milk and green vegetables of the leafy type, such as salad dishes which encourage eating raw food and raw vegetables for the purpose of supplying sufficient antiscorbutic principle.

Experimental Evidence of the Lack of Vitamin B in Nutrition

DR. LAFAYETTE B. MENDEL, New Haven, Conn.: In the investigations on vitamin B, the opportunity to employ animals, without the limitations of research on man, has been an important factor in advance. Experimental polyneuritis gallinarum opened the way for the interpretation of beriberi as an avitaminosis. Hopkins in 1906 prophesied that health and nutrition of individuals depend on "unsuspected dietary factors." Several of these factors have been discovered. Although their chemical nature has not yet been identified, the evidence for their need is beyond question. Vitamin B is distributed widely in plants and animals. When a diet "otherwise adequate" but lacking in this factor is offered to animals, they soon decline to take sufficient food, no matter how palatable it may be. The adjuvant to the diet of this substance rapidly brings return of appetite. The same phenomenon is observed in convalescents too long maintained on restricted diet, and manifesting an indifference to food. Human beriberi and the experimental polyneuritis of birds have long been studied. Recently, similar experiments have been carried out on the dog. This animal, if maintained for weeks on a diet lacking in vitamin B, first suffers vomiting and gastric disturbance, and then refuses to eat. Later, its limbs become involved progressively in spastic paralyses. Convulsions follow, and the animal finally dies. If vitamin B is administered before the advanced stages, the animal entirely and promptly recovers. Recent workers have believed that lesions of the gastro-intestinal tract are associated with deficiency in this vitamin, and that the functional activity of the lymphoid tissues is interfered with. Lymphopenia and marasmus accompany withholding the B vitamin, and disappear with its restoration. In other words, its presence is necessary to the normal functioning of lymphoid tissue. Specific lesions of the lymphoid tissues, however, may be induced by different agencies, of which vitamin deficiency is only one.

Distribution and Properties of Vitamin C

DR. H. C. SHERMAN, New York: The lack of a necessary antiscorbutic substance, vitamin C, in grains, was established by experiments on guinea-pigs which were fed entirely on rice or on oats. The instability of this vitamin will make very difficult its isolation in pure form, but it is measurable by its effects experimentally, and its occurrence in various foodstuffs can be more or less computed. Grain in a resting state contains little or none of this substance; but properly sprouted grain, and cereals, show a marked development of vitamin C. A preexisting substance in the seed becomes transformed into vitamin C as the grain sprouts. This fact is of fundamental significance. This vitamin is water soluble, and passes in the sap into the most actively growing, succulent parts and juicy stems and tubers of plants. Oranges, lemons, tomatoes and raw cabbage are rich sources of vitamin C. Animals seem to depend on plants for their needs of vitamin C. Rats, which are almost immune to scurvy, seem to require but little of it. Animals do not seem to store vitamin C to any extent in their bodies, but possibly the blood contains it, as does milk. The milk of the cow fed on fresh grass in summer is rich in this vitamin. This vitamin-rich diet should apply also to the milk of the nursing mother, who should receive ample allowance of fruits and vegetables to supply vitamins B and C, as well as good milk, rich in vitamin A. Vitamin C appears to play a part in the nutrition of animals, even those immune to scurvy, as rats, which do not develop scurvy, are nevertheless improved in health and vigor by its addition to their diet. Physically and chemically, vitamin C is soluble in water and alcohol, and is destroyed readily by heat or oxidation. Destruction by heat is more rapid in the presence of air. Both time of heating and temperature have an influence in the destruction of this vitamin. Thus, the lowest time and temperature of heating must be used to conserve this vitamin in the preservation of antiscorbutic foods. The vitamin appears to be more readily destroyed in alkaline solution than in acid. It is abundantly preserved in canned tomatoes.

The Relation of the Diet to Rickets

DR. PAUL G. SHIPLEY, Baltimore: In the Carolinas, in the latter half of the eighteenth century, slave owners experimented with diets affecting the health of slaves, and found that certain dietaries induced dropsy and diseases of the eye. We now know that the deficiency of vitamin A in the diet is followed by such diseases as keratomalacia, xerophthalmia, night blindness, iritis and panophthalmitis. Human beings,

however, are not so likely to suffer starvation in regard to one food element, as they are to suffer deficiency. Rickets is a deficiency disease, the effects of which are seen most in the skeleton; but it also involves the whole organism, including the nervous system. The pathology of the blood in this condition deserves careful attention. The normal calcium content of the blood is from 9 to 11 mg. per hundred cubic centimeters of blood; the normal phosphates from 4 to 6 mg. per hundred cubic centimeters of blood. The calcium may not be reduced, and the phosphate may be greatly reduced; and occasionally the serum calcium is reduced while the phosphate is normal. If the serum calcium falls below 5, there is tetany, either latent or manifest. To be effective, a diet must restore the normal phosphate level and the normal blood calcium. Disturbance of the calcium-phosphate ratio produces rickets in the bones, as normal bone growth depends on this balance in an optimal measure. In cases of rickets with latent tetany, there is marked blood calcium reduction. Cod liver oil seems to be the most suitable substance to compensate for faulty calcium-phosphate balance. Whether this contains a vitamin identical with vitamin A is not known. It may be different. It is, at present, uncharacterized. Another point is the influence of light in the prevention of rickets caused by a deficiency diet. Sunlight, the mercury quartz vapor lamp, the cadmium arc, the iron chromium arc and ultraviolet light are all capable of healing rickets in the presence of vitamin deficiency. Persons deprived of the normal amount of light are prone to develop rickets.

The Relation of Diet to Pellagra

DR. JOSEPH GOLDBERGER, Washington, D. C.: This article will be published in full in THE JOURNAL.

Application in Practice of the Results of Vitamin Studies

DR. L. EMMETT HOLT, New York: Vitamin studies have given a new basis for the evaluation of foods: Many articles which are valueless as regards energy furnish an essential nutritive substance, entirely apart from their chemical constituents. Thus, the tomato, cabbage, spinach, lettuce, chard, green vegetables and fruits have an essential food value, although composed chiefly of cellulose, water, acids and salts. The preparation, preservation and storage of foods, rendered necessary by conditions of modern life, sacrifice a certain amount of their nutritive value, and this is true also in regard to the overrefining of flour and grains. On the other hand, food preservation gives immense advantages. White wheat flour keeps for months without deterioration, while whole wheat flour spoils within thirty days, so that its general adoption is practically an economic impossibility. The sterilization of milk, while it may injure its vitamin properties, insures protection from milk-borne diseases; and the same principle applies to preservation of vegetables, fruits and eggs. Infants are most likely to be injured by the sterilization of milk by heating, as through this process vitamin C is destroyed, though apparently vitamins A and B are not injured. To counteract this danger, some antiscorbutic must be added to the diet of infants reared on sterilized milk. The body has a store of this vitamin to last for some time, but after some months it becomes exhausted, and scurvy appears. As the winter milk of cows is deficient in vitamin content, it is well to add some vitamin-rich substance to a milk diet in winter time. The diet of the nursing mother may be affected similarly, which accounts for puzzling cases of scurvy developing in breast-fed infants. In the Philippine Islands the nursing children of rice-fed mothers often develop beriberi. Malnutrition among poor infants is due to lack of vitamins A and C in the mother's diet.

The effects of vitamin deficiency are most clearly noted in times of war, stress and famine, and are seen in prisons, army camps, on shipboard, in the Arctic, and also in infancy. Vitamins are so widely distributed in natural foodstuffs that, unless the diet of children is very one-sided, they should receive their full supply in a normal diet. Two points demand attention in vitamin investigation: one is their specificity, and the other the small amounts necessary to produce effect. Vitamin requirement, however, is affected by other conditions: confinement, exposure, hard work and poor food. Children have requirements for growth, while adults have a maintenance need only. Infants suffer most from a deficiency, as their growth is greatest and their diet most restricted.

The specificity of vitamins is absolute. They are not interchangeable, and seem to be entirely independent of one another, and each serves a definite nutritional function. There is no proof that benefit can be derived from an excess of them. A practical question is whether a relative deficiency would not produce a general condition of ill health, rather than outspoken disease. The only proof of this would be the therapeutic test, and decided improvement by addition of vitamin-rich substance. Reasoning from animal experiment, this should come in two or three weeks.

The tendency to exploit the vitamin fad commercially is to be deplored. Indispensable though these substances are, their lack is not the cause of all nutritional disturbance. The knowledge of vitamins, however, has furnished a key to many obscure nutritional problems. For children, plenty of milk and a varied diet are indispensable. Skimmed milk should be supplemented by butter. When milk is excluded, green, leafy vegetables should be used plentifully. Whole grain cereals and potatoes furnish water soluble vitamin. Fruits and canned tomatoes furnish antiscorbutic vitamin, and cabbage is rich in all vitamins.

DISCUSSION

DR. ALFRED F. HESS, New York: There has been a new era in the study of rickets in the past year. Previous to that, very few advances had been made since the work of Glissen in 1600. The disease can be produced in the rat. The disease can be regulated so that it can be cured or prevented by dietary means, although there is some limitation to the data which can be recognized by this animal experimentation. The calcium-phosphate ratio is important. There can be low calcium and normal phosphate, or there can be low phosphate and normal calcium; that is true as far as laboratory experiments are concerned, but it does not apply to a large number of cases in the clinic, because even if we give a deficient amount of milk, we get the ratio the same. If the milk is diluted, the phosphate and calcium ratio remains the same. That cannot be the chief factor, therefore, in the production of rickets. Rickets is a very common disorder of infants in the temperate zone. About 75 per cent. of breast-fed infants show more or less tendency to rickets in some form. The incidence of the disease is more marked in the winter. It is at its height in March and April. There is an increase in institutions month by month, during January, February and March. We have, therefore, to consider not only the seasonal, but the monthly incidence. I am connected with an institution in which excellent hygienic conditions are maintained, but we get this marked seasonal incidence of rickets. Light is also a factor in rickets, or, rather, the reciprocal reaction between food and light. There is a seasonal effect on the phosphate of the blood, as shown by the examination of the blood month by month. In the summer time there is a normal inorganic phosphate content of the blood, from 4 to 5 mg. per hundred cubic centimeters of blood; but it is much lower than this in January, February and March. Thus, there is a phosphate ebb and flow caused by lack of or increase of light. This has probably a direct relationship to the seasonal incidence of rickets. There is also a calcium wave, and this has particular influence on the seasonal incidence of tetany. Tetany occurs mostly in the spring. Sunlight has a direct curative effect on rickets, but one can also use artificial light, such as the mercury vapor lamp or the calcium arc light. Experiments in the laboratory showed that rats kept on a rickets diet could be prevented from having the disease by exposure to a carbon arc lamp, for three minutes a day at a distance of 3 feet.

Another interesting fact in this connection is the well known one that colored infants are much more prone to rickets than white infants. This is also true of black rats, the melanotic form of the Norway rat. Even with exposure to the mercury arc lamp the black rats develop rickets, and the white rats under similar conditions do not acquire the disease. The pigment has not allowed the light to pass to the tissues, and the pigmented skin of negro infants plays a part in their susceptibility to rickets.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

April, 1922, **60**, No. 2

Studies on Visceral Sensory Nervous System. XI. Action of Cocain and Aconitin on Pulmonary Vagus in Frog and in Turtle. N. Kleitman, Chicago.—p. 203.
Water Content of Tissues in Experimental Beriberi. D. J. Krause, Chicago.—p. 234.
Studies in Carbon Monoxid Asphyxia. II. The Growth of Neuroblast in the Presence of Carbon Monoxid. H. W. Haggard, New Haven, Conn.—p. 244.
*Relation of Splenectomy to Growth and Appetite in the Rat. A. H. Smith and L. Ascham, New Haven, Conn.—p. 250.
*Relation of the Suprarenals to Fatigue. F. A. Hartman, R. H. Waite and E. F. Powell, Buffalo.—p. 255.
Sensory Stimulation by Unsaturated Alcohols, Polyhydric Alcohols and Chlorhydrins. M. Irwin, Cambridge, Mass.—p. 270.
Successive Stimulation by Alcohols. M. Irwin, Cambridge, Mass.—p. 274.
Effect of Various Salts on Outgrowth from Experimental Amebocyte Tissue Near Isoelectric Point and with the Addition of Acid or Alkali. L. Loeb and K. C. Blanchard, St. Louis.—p. 277.
Physiology of Gastro-Enterostomy. I. Regurgitation of Intestinal Contents in Normal Dogs and Dogs with Posterior Gastro-Enterostomy. G. E. Burget and M. E. Steinberg, Eugene, Ore.—p. 308.
Pulse in Portal Vein. H. Feil and D. D. Forward, Cleveland.—p. 312.
Blood Pressure Responses to Hypersystolic Compression of Tissues. K. A. Martin and H. L. White, St. Louis.—p. 323.
*Significance of Hydremia in Secretion of Urine. H. Bakwin, New York.—p. 343.
Study of Regeneration of Autonomic Fibers in Vagus Nerve of Sheep. S. R. Burlage, Ithaca, N. Y.—p. 350.
*Secretory Action of Pancreas in Relation to Thyroid Gland. H. Hashimoto, Tokyo, Japan.—p. 357.
*Id. II. Effect of Thyroidectomy in Rats on Secretory Action of Pancreas. H. Hashimoto, Tokyo, Japan.—p. 365.
Study of Weight Regulation in Adult Human Body During Overnutrition. A. Gulick, Columbia, Mo.—p. 371.

Relation of Splenectomy to Growth and Appetite.—A study by Smith and Ascham of the body weight and food intake of the white rat after splenectomy gave no evidence of an increase in appetite or variation from the normal rate of growth. A study of the red cell count on five splenectomized rats which were the progeny of splenectomized parents showed no anemia followed the removal of the spleen.

Relation of Suprarenals to Fatigue.—The results obtained by Hartman et al. seem to indicate that epinephrin plays a very important rôle in increasing muscular work and delaying the onset of fatigue.

Significance of Hydremia and Urine Secretion.—The concentration of the blood and the secretion of urine were studied by Bakwin in a group of well infants after water and saline drinking. After water drinking a moderate hydremia occurred without diuresis. After saline drinking there was a marked blood dilution and oliguria. It is evident, therefore, that in infants hydremia alone does not necessarily cause diuresis.

Relation of Thyroid to Secretory Action of Pancreas.—Hashimoto states that feeding animals comparatively large quantities of thyroid interferes with the secretory action of the pancreas, but on the contrary feeding comparatively small quantities causes a fair increase in that function.

Effect of Thyroidectomy on Pancreas Secretion.—Experimental observations made by Hashimoto have shown that the secretory action of the pancreas varies considerably according to the amounts of thyroid secretion circulating in the body. A moderate augmentation of the thyroid secretion in the body provokes the hyperfunctioning of the pancreas, whereas a lack of the thyroid secretion induces a reduced activity of the gland. As to the part played by the thyroid secretion in the normal functioning of the pancreas, it may be inferred that the thyroid secretion acts as an excitatory autocoid on the pancreas in maintaining its normal activity. It may be concluded that the thyroid hormone does not act as a specific stimulus to a particular organ or a particular physiologic function, as does the secretin to the secretory function of the pancreas, but that it probably acts as a nonspecific stimulus generally on various physiologic functions.

Arkansas Medical Society Journal, Little Rock

April, 1922, **18**, No. 11

Encephalitis. W. M. McRae, Little Rock.—p. 205.
Prevention and Early Diagnosis of Pulmonary Tuberculosis. O. M. Bourland, Van Buren.—p. 208.
Medical Ethics. J. H. Phipps, Roe.—p. 214.
Diseases of Accessory Sinuses of Nose. R. H. T. Mann, Texarkana.—p. 215.
Utricle in Chronic Urethritis. T. N. Black, Hot Springs.—p. 218.
Treatment of Smallpox in Its Last Stage. R. L. Fraser, McCrory.—p. 220.

Boston Medical and Surgical Journal

April 27, 1922, **186**, No. 17

*Case of General Progressive Muscular Atrophy, with Recovery. J. E. Goldthwait, Boston.—p. 559.
Hematuria. E. L. Young, Jr., Boston.—p. 561.
Review of Year's Thyroid Work. F. H. Lahey, Boston.—p. 563.
Preliminary Report of Mental Clinic of Worcester State Hospital. G. F. Caldicott, Worcester, Mass.—p. 568.
*Spinal and Cistern Puncture, with Lavage, Following Apoplectiform Attack in Paresis. A. H. Ruggles and A. T. Wyatt, Providence, R. I.—p. 572.
Evaluation of Intelligence Tests in Criminal Cases. G. L. Walton, Boston.—p. 574.

General Progressive Muscular Atrophy with Recovery.—There was no question regarding the diagnosis in Goldthwait's case. There was nothing revealed in the general examination that indicated disease of the organs. The blood examination was not peculiar except that there was an almost total absence of the sugar and creatinin, which was interesting because of the marked atrophy of the muscles in which the sugar is naturally stored. Recognizing that with the low diaphragm, and consequently the slightly moving diaphragm, the circulation of the abdominal viscera must be interfered with, since the blood is pumped back from the abdomen to the heart almost entirely by the contractions of the diaphragm acting on the upwardly opening valves in the veins, correction of this seemed the logical first move. The patient was put to bed, all pillows were taken away, so that the body was kept fully straight, with the chest raised instead of the usual flexed position which results from the pillows as commonly placed under the head and shoulders. In this position the diaphragm must necessarily be raised to about the normal position, which is midway between full inspiration and full expiration, in which, unless actual paralysis of the diaphragm exists, the action will be adequate to insure the normal return flow of blood from the abdomen to the heart. To accentuate this action, several periods of a half hour each were used with the patient in the so-called "hyperextended position," with a moderate-sized pillow under the dorsal spine, with the arms raised and the hands clasped under the head. Stimulating baths were given to help the physiology through the stimulation of the superficial sympathetic nervous system. For similar reasons light massage was given, especially of the muscles of the back and loin. In the hope of more rapidly improving his general vitality, small doses of epinephrin and pituitary extract were used, but before this was started, in the period during which the examinations were being made, in which no treatment was given other than the physiotherapy and the special postures, very marked signs of improvement showed. In two weeks' time, the color had improved markedly, the muscles were in distinctly better tone. In three weeks, the patient could raise the straight leg from the bed, and at this time he was fitted to a brace which held the body fully erect and prevented flexion at the waist line, with the necessary lowering of the diaphragm. With this brace on, he was allowed up for short periods, and special exercises were started to stimulate the development of muscles of the chest and trunk. During the rest of the time, each day, he was kept in the horizontal position, and to prevent the common bending at the waist line (dorsolumbar level) in the many movements made in bed, a plaster-of Paris jacket was fitted and worn, except as it was removed for bathing or exercise, or when he was up with the brace. The patient made a very rapid removery, with the improvement showing strikingly after the first two weeks. At the end of eight weeks, not only was the functional condition markedly better, but the examination of the blood showed normal sugar and creatinin. The patient, when last seen, in 1919, was fully well and equal to all that should be expected of an active man.

Spinal and Cistern Puncture in Apoplexy.—This case would suggest the value of spinal and cistern puncture as a diagnostic aid and as a possible therapeutic procedure in some cases of suspected intracranial hemorrhage.

Canadian Journal of Mental Hygiene, Montreal

January, 1922, **3**, No. 4

Grading and Promotion of Pupils. C. B. Willis, Edmonton.—p. 291.
Outpatient Psychiatric Clinic. G. S. Mundie, Montreal.—p. 297.

Florida Medical Association Journal, St. Augustine and Jacksonville

March, 1922, **8**, No. 9

Ureteral Stricture. E. H. Teeter, Jacksonville.—p. 159.
Pyuria. J. C. Vinson, Tampa.—p. 162.
Neurosyphilis: Some Present-Day Opinions Concerning. J. D. Gable, Washington, D. C.—p. 164.
*Two Anomalies of Pregnancy. J. C. Davis, Jr., Quincy.—p. 167.
Indigestion in Young Infant. J. H. Fellows, Pensacola.—p. 168.

Abdominal Pregnancy; Fetal Anomaly.—Davis reports a case of abdominal pregnancy of five months' duration. A diagnosis of ovarian cyst had been made. There had been no pain at any time; no loss of weight; no inconvenience; nothing to attract the patient's attention to her condition other than a rapid increase in size of the right side of the abdomen. At operation Davis found a membrane adhering to the peritoneum on the right side, containing fluid, which later proved to be amniotic fluid, and a well developed male fetus, about five and one-half months' pregnancy. The amniotic membrane was attached to the peritoneum in front; no other attachment was discernible. Just posterior to this membrane was the placenta, as large as one found at the end of a full-term pregnancy. The placenta was adherent to and continuous with the omentum, enough so that it was impossible to tell where the one began and the other ended, and from the omentum came most of its blood supply. The placenta was also adherent to the lateral wall of the abdomen, ascending colon and cecum. The appendix was buried in the placental mass. The right tube was a typical pus tube. The uterus was not enlarged. There were no changes in the left tube and ovary. The second case was one of anomaly of the fetus. The head and extremities were well formed. There was an entire absence of sternum and anterior abdominal wall. The heart was anterior to the anterior chest wall and was absolutely bare. No pericardium or any other covering over heart muscle. The lungs were normal and enclosed in the thoracic cavity. The ribs on the left side going behind the heart and attached to the muscles in front of the spinal column being continuous with the attachment of the ribs on the right side. The liver, stomach, large and small intestines, omentum, pancreas, spleen and urinary bladder were all bare. The abdominal parietes only incased the kidneys.

Illinois Medical Journal, Oak Park

April, 1922, **41**, No. 4

Agitation for Free Choice of Physician in New York and What it Leads to. E. V. Delphey, New York.—p. 249.
*Treatment of Malignant Tumors of Pharynx and Larynx by Diathermy. F. J. Novak, Jr., Chicago.—p. 252.
Visceroptosis: Symptoms, Complications and Treatment. E. E. Poos, Belleville, Ill.—p. 254.
Some Surgical Aspects of Endocrines. D. Deal, Springfield, Ill.—p. 256.
Roentgen-Ray Examination of Gastro-Intestinal Tract. A. Hartung, Chicago.—p. 258.
*Acute Aneurysms. R. W. McNealy, Chicago.—p. 262.
Practical Points in Tonsillectomy. W. H. Peck, Chicago.—p. 265.
Campaign for Prevention of Syphilis. A. W. Stillians, Chicago.—p. 268.
Ocular Manifestation of Syphilis. E. F. Garraghan, Chicago.—p. 272.
Relation of Surgery to Group Practice. E. H. Weld, Rockford Clinic, Rockford, Ill.—p. 273.
Compensation for Ocular Injuries. F. Allport, Chicago.—p. 280.

Diathermy in Malignant Disease of Larynx and Pharynx.—Novak asserts that diathermy offers advantages over surgery in the treatment of these cases which are of fundamental importance. Diathermy plus radiation is superior to diathermy or radiation alone. The apparatus employed and its use are described.

Acute Aneurysms.—McNealy reports three cases in which the aneurysms developed rather rapidly, hence the term "acute." In each case the leg was involved and a history of trauma was obtained.

Journal of Infectious Diseases, Chicago

April, 1922, **30**, No. 4

*Antibody Production After Intratracheal Injection of Antigen. T. D'Aunoy, New Orleans.—p. 347.
*Study of Ammonia Production by Certain Strain of Avirulent Human Tubercle Bacillus. A. W. Bosworth, M. G. Elkins and M. E. Blanchard, Boston.—p. 357.
*Inhibitory Action of Certain Organic Mercury Compounds on Growth of Human Tubercle Bacilli. L. M. DeWitt, Chicago.—p. 363.
*Sore Throat Epidemic of Unusual Type. W. B. Sharp, J. F. Norton and J. E. Gordon, Chicago.—p. 372.
Phenol and Cresol as Preservatives in Biologic Products. P. Masucci, Glenolden, Pa.—p. 379.
Differentiation of Hemolytic Streptococci from Human and Bovine Sources by Hydrolysis of Sodium Hippurate. S. H. Ayers and P. Rupp, Washington, D. C.—p. 388.
*Streptococci in Chronic Respiratory Infections. W. R. Hodge and C. Cohen, Toronto, Can.—p. 400.
*Anaphylaxis Produced by Eye Tissues. Primary Toxicity of Eye Tissues—Organ Specificity and Group Reactions of Eye Tissues—Anaphylactic Theory of Sympathetic Ophthalmia. R. Kodama, Chicago.—p. 418.
*Inoculation of White Mice with Pfeiffer's Bacillus. Influenza Studies. IX. N. P. Hudson, Chicago.—p. 433.

Antibody Production by Intratracheal Injection of Antigens.—The intratracheal inoculation of various antigens is suggested by D'Aunoy as an apparently safe and efficient method of antibody production especially with virulent organisms for which laboratory animals are highly susceptible as antigens.

Ammonia Production by Avirulent Tubercle Bacilli.—A study of the nitrogenous metabolism, during six weeks, of a certain avirulent culture of human tubercle bacilli revealed the fact that there is a continuous production of ammonia in plain, dextrose, mannitol and glycerol broths. Over 30 per cent. of the nitrogen originally present in the medium may be converted to ammonia. The ammonia produced is partly retained in the medium but the greater part is lost through volatilization. The loss of ammonia is coincident with an alkaline reaction of the medium.

Effect of Organic Mercury Compounds on Tubercle Bacilli.—According to DeWitt the power of phenol to inhibit the growth of the human tubercle bacillus is greatly increased by the substitution of a mercury salt in place of one of the hydrogens, hence a mercury united by one bond to carbon. It is also increased by the substitution of one NO_2 group for one hydrogen in the ring. The position of the NO_2 group has much to do with the degree of increase of the inhibitory power, the ortho position being most favorable and the para position next. This is probably due to a quinoidal change in the phenol nucleus. The position of the mercury group also has much influence on the degree of increase of inhibitory power, the ortho position seeming most favorable. The mercury bridge compounds seem also to have a high inhibitory power, at least in the two compounds tested, in both of which the bridge occupies the ortho position. Although saligenin or phenol carbinol has the same inhibitory power as phenol, the mercury derivatives of this have a greatly increased efficiency, varying somewhat with the percentage of mercury; one compound, however, which has less mercury but in which both a nitro and a mercury group occupy the ortho position with respect to the hydroxy group, has a higher inhibitory power. In the anilin compounds also the substitution of a mercury group greatly increases the efficiency. The nitro group also increases the inhibitory efficiency but not in the same order of position as in the nitrophenols, since the quinoid change does not readily take place in the anilin nucleus. However, the anilin compounds having the nitro group in the ortho position and the mercury salt in the para position seem more efficient than if the order is reversed. Methyl and ethyl groups do not materially affect the antiseptic power of the anilin compounds, although these compounds having methyl or ethyl groups plus nitro groups plus mercury groups have a very high antiseptic power, not apparently varying much either with the percentage of mercury or with the relative position of the different groups.

Hemolytic Streptococcus and Pneumococcus Cause Sore Throat.—The data presented by Sharp, Norton and Gordon show the occurrence of a sore throat epidemic of an unusual clinical type. A hemolytic streptococcus and a Type IV

pneumococcus were found simultaneously in the tonsillar regions of a group of children with the symptoms described. The streptococcus was of an unusual cultural type, belonging to Holman's group *S. infrequens.* The hemolytic streptococcus is known to be at times the etiologic factor in sore throats. That the Type IV pneumococcus present in the group might be pathogenic is suggested by its presence unaccompanied by hemolytic streptococci in one case of acute inflammation. One of the most striking features was the carrier condition. It is impossible to say how long this was maintained, but in five of eight instances it persisted for not less than eight weeks as shown by finding immunologically identical organisms continually on the tonsils during this period. Hemolytic streptococci were found after twelve weeks. The finding of specific strains of hemolytic streptococci and of Type IV pneumococci, biologically identical with those from the group of children intensively studied, in convalescents among high school students and in children in other grades of the elementary school indicated the prevalence of these organisms throughout the whole school. The possibility of contact among the children existed and was substantiated by certain well established instances. The persistence of clinical symptoms closely parelleled the ocurrence of the two specific strains of the organisms. These symptoms were so mild after the earliest examinations as almost to escape attention. This epidemic may have been due to one of the organisms or to their stimultaneous action.

Streptococci in Chronic Respiratory Infections.—The chief aim of the study made by Hodge and Cohen was to determine the constancy or inconstancy of types of streptococci occurring in chronic nontuberculous respiratory infections. The streptococcal flora in various samples of sputum from the same source, is, in patients with bronchial asthma, fairly constant and quite complex, from eight to fourteen types of streptococci occurring in single specimens. The streptococcal flora in various particles from the same sample of sputum does not vary. The simple method of using a twenty-four hour serum broth culture of a washed particle of sputum as a basis for vaccine preparation seems as efficient as any, the streptococcal flora in such a culture being approximately parallel to that in the sputum itself. There is, in general, a close parallelism between the grouping of streptococci arrived at through biochemical (fermentation) and serologic (agglutination) reactions. Certain members (a′ 2.1) of Brown's suggested alpha prime group of streptococci are of particular interest; these a′ 2.1 strains are universally agglutinated by all of seven antistreptococcal serums, but produce agglutinins active against their own type of strain only. Absorption experiments indicate that this organism contains a fundamental unit which occurs in each one of the more complicated streptococci used for immunization in our series.

Anaphylaxis Produced by Eye Tissues.—This work was undertaken by Kodama to study the organ specificity and the group reactions of the eye tissues. The cornea, lens, and vitreous body were used free from blood; the retina, uvea, uvea pigment and optic nerve were carefully washed as free from blood as possible. It appears that each eye tissue studied contains several antigens (anaphylactogens) in varying amounts, in addition to a specific or chief antigen peculiar to itself. The cornea and vitreous body contain in greater or less degree anaphylactogens that are common to all the different tissues of the eye. On the other hand, the lens and uvea contain the smallest number of associate anaphylactogens, the retina and optic nerve standing between. Applying these results to the anaphylactic theory of sympathetic ophthalmia, it is concluded that the active agent of that disease needs no to be uvea pigment alone as believed at present, as other elements in the uvea and in other eye tissues may play the same rôles as the uvea pigment is assumed to play. This enlargement of the anaphylactic theory of sympathetic ophthalmia readily takes in the form in which papilloretinitis develops, a process that the present pigment theory does not explain.

Pfeiffer's Bacillus Produces Immunity in Mice.—Pfeiffer's bacillus, when injected intraperitoneally in pure culture, Hudson found to be pathogenic for white mice irrespective of the source, and was readily recovered from the heart blood by cultivation on chocolate-agar medium. Strains isolated during influenza epidemics at military camps were more pathogenic for white mice than strains from other sources. The invasiveness of both Pfeiffer's bacillus and *Streptococcus viridans* seemed to have been increased by injections in mixed cultures: the bacillus by injection with pneumococcus, and the coccus by injection with Pfeiffer's bacillus. Pfeiffer's bacillus was not found to be appreciably increased in virulence by passage three or four times through white mice. Sublethal doses from one-fourth to one-sixteenth slant of the strains used of Pfeiffer's bacillus conferred immunity to white mice against lethal (one-half slant) and twice lethal (one slant) doses of heterologous as well as homologous strains. This immunity lasted at least eight weeks.

Journal of Metabolic Research, Morristown, N. J.

March, 1922, **1**, No. 3

Relations Between Fertility and Nutrition. II. Ovulation Rhythm in Rat on Inadequate Nutritional Regimens. H. M. Evans and K. S. Bishop, San Francisco.—p. 335.
*Nonsurgical Duodenobiliary Drainage in Diabetes and Hypertension Cases. J. J. Selman, Morristown, N. J.; H. S. Martland, Newark, N. J., and M. J. Synnott, Montclair, N. J.—p. 357.
*Treatment and Progress in Diabetes F. M. Allen and J. W. Sherrill, Morristown, N. J.—p. 377.

Nonsurgical Duodenobiliary Drainage in Diabetes.—The negative findings in forty-nine of fifty-three diabetic cases, Selman et al. state, harmonizes with the view that most cases of diabetes are not the result of ascending duct infections extending into the pancreas, but are more probably due to previous attacks of blood borne infections, such as the acute infectious fevers. This group of cases represent most likely the vestigium of "old burnt-out conflagrations." There is an appreciable number (six out of twenty cases) of patients who have had symptoms of previous affections of the biliary or upper abdominal region who do show evidences of existing infections. In five of these cases (namely, four of frank diabetes and one of pancreatitis with incipient diabetes) it is important to clear up these infections in order to eliminate one of the main factors contributing toward downward progress. In the case of hypertension, elimination of the focus may destroy a toxic bacterial etiologic factor tending to maintain the hypertension. If medical measures will not suffice, the question is open as to the extent to which prophylactic surgery, should be attempted. The Lyon method, in Selman's opinion, is the only available nonsurgical diagnostic procedure to determine directly whether or not the biliary system is infected. When infection is shown to be present, this method offers a mode of therapy, the value of which in certain cases of diabetes remains to be demonstrated by future observation.

Treatment and Progress in Diabetes.—The various clinical observations made by Allen and Sherrill cannot be recapitulated in detail; however, the results of the present treatment in the milder types of diabetic cases, especially after the age of 40, is regarded as being highly satisfactory, as most such patients can be maintained in comfort and usefulness, the dreaded complications of diabetes can be avoided virtually altogether, and any downward progress can be prevented or reduced to such a minimum that the normal span of life can probably be completed, all at the price of simple precautions in diet. Every dietetic treatment of the severe and progressive types of diabetes leaves much to be desired. No form of diet has ever succeeded in restoring weight and strength. It is believed that the best results, practically as well as theoretically, are obtained when cases are diagnosed early and treated from the outset by reduction of the total diet proportioned to the severity of the diabetes. Whether the notoriously progressive tendency of the worst cases of diabetes, especially in the young, represents merely high susceptibility to injury from dietary excesses and from infections, and whether such downward progress may be completely prevented by an ideal degree of functional rest as indicated by continuous absence of hyperglycemia, is still not positively decided. A combination of clinical and pathologic evidence makes this a plausible hypothesis, at least theoretically.

Journal of Radiology, Omaha

April, 1922, **3**, No. 4

Physical Foundations of Deep Therapy. A. Bachem, Frankfort, Germany.—p. 123.
Treatment of Focal Infection of Throat by Roentgen Ray as Compared with Surgical Removal of Tonsils and Adenoids. W. D. Witherbee, New York.—p. 129.
Roentgen-Ray Treatment of Tonsils with Conjoint Use of Ultraviolet Rays. A. J. Pacini, Washington, D. C.—p. 131.
Radiotherapy of Diseased Tonsils. R. H. Lafferty and C. C. Phillips, Charlotte, N. C.—p. 132.
Organ Stimulation by Roentgen Ray. W. F. Petersen and C. C. Saelhof, Chicago.—p. 135.
Status of Radiologist in Small Communities. U. S. Kahn, Binghamton, N. Y.—p. 139.

Minnesota Medicine, St. Paul

April, 1922, **5**, No 4

Duluth as an All-the-Year-Round Health Resort. Comparison with Saranac Lake, N. Y. A. T. Laird, Nopeming.—p. 201.
Experiments Developing Technic for Study of Chemistry of Nutrition and Growth. J. F. McClendon and W. S. Bowers, Minneapolis.—p. 203.
Endocrines and Sympathetic. G. Vercellini, St. Paul.—p. 211.
Developmental Variations. M. I. Bierman, Minneapolis.—p. 216.
Goiter Surgery. F. J. Plondke, St. Paul.—p. 220.
Pyemia of Otitic Origin. H. Newhart, Minneapolis.—p. 228.
Studies on Respiratory Organs in Health and Disease. V. Comparison of Lung Capacity Readings and Physical Signs in Pulmonary Tuberculosis. J. A. Myers, Minneapolis.—p. 233.
Health of School Children. B. C. Bernard, Lake Park.—p. 238.
Mental Hygiene and General Practitioner. J. C. Michael, Minneapolis.—p. 240.
Marginal and Jejunal Ulcers Following Gastro-Enterostomy. F. C. Schuldt, St. Paul.—p. 243.

New Orleans Medical and Surgical Journal

April, 1922, **74**, No. 10

Conservation of Gallbladder. F. W. Parham, New Orleans.—p. 650.
Juvenile Deforming Osteochondritis; Report of Cases. E. D. Fenner, —p. 659.
Cough and Laryngologist. A. I. Weil.—p. 668.
Nonspecificity of Vaccines. V. E. Kea, Atlanta, Ga.—p. 675.
Reputed Vesicating Properties of Granary Weevil, Calendra Granaria. W. A. Riley, Minneapolis.—p. 678.

Pennsylvania Medical Journal, Harrisburg

April, 1922, **25**, No. 7

Abduction Treatment in Fracture of Neck of Femur. G. M. Dorrance and E. C. Murphy, Philadelphia.—p. 449.
*Nonunion of Fractures of Neck of Femur. M. S. Henderson, Rochester, Minn.—p. 452.
Recurrence of Hernia. H. R. Owen, Philadelphia.—p. 458.
*Splenic Anemia. R. L. Engle, Philadelphia.—p. 464.
Postdiphtheritic Paralysis. T. J. Elterich, Pittsburgh.—p. 467.
Local Responsibility for Community Welfare with Special Reference to Tuberculosis. A. P. Francine, Harrisburg.—p. 469.
*Acute Tuberculosis. G. W. Norris and D. L. Farley, Philadelphia. —p. 472.
Typhoid Fever; Correlation of Laboratory and General Practitioner. R. A. Keilty, Danville.—p. 477.
Correlations of Neuropsychiatry and Internal Medicine. C. K. Mills, Philadelphia.—p. 480.
General Principles Underlying Treatment of Syphilis. J. H. Comroe, New York.—p. 482.
Shall Physician Make Doctor of His Boy? T. Diller, Pittsburgh. —p. 488.
Likelihood of Error in Abdominal Diagnosis. A. W. Hammer, Philadelphia.—p. 489.

Nonunion of Femoral Neck Fractures.—Forty-three consecutive cases of nonunion of fracture of the neck of the femur are analyzed by Henderson. The patients had had bone pegging, heterogenous or autogenous, or metal pegging operations for nonunion of the fracture. The average time since the fracture was sustained and the time of operation was more than one year. Three patients in the series could not be traced. Eight were operated on by using metal nails or screws. Three operations were successful and three were failures; two patients were not traced. Twenty-five had autogenous bone pegging; fifteen were cured; nine were not cured, and one patient died on the second day of cerebral embolus. Necropsy showed a thrombus in the common iliac vein. It is probable that death was caused by a small piece of this thrombus becoming detached and passing from the right auricle to the left side of the heart through a patent foramen ovale. In seven younger patients recently operated on, beef bone screws were used, and all were cured. Two were operated on by the Brackett method and obtained satisfactory results. Of the forty patients who could be traced twenty-seven (67.5 per cent.) were cured. They obtained bony union. Either heterogenous or autogenous pegging was used in thirty-five patients. One of these was not traced. Twenty-four of the thirty-four patients traced were cured. However, some of the patients considered cured do not have ideal results. They have bony ankylosis and stability; a few have stiffness. Henderson believes that the main causes of stiffness following operations for nonunion of fractures of the neck of the femur are dissecting too extensively and driving in the peg so deep that injury is inflicted on the joint surfaces. In spite of the limitation of motion the results are very satisfactory; function is good.

Splenectomy for Splenic Anemia.—Engle relates the case of a boy, aged 9, whose spleen was removed for splenic anemia. Within the month after operation he had four serious gastric hemorrhages for which he was transfused. A year later he showed remarkable improvement.

Acute Pulmonary Tuberculosis.—A study of 100 selected cases of acute tuberculosis was made by Norris and Farley for the purpose of analyzing these cases, especially from the standpoint of diagnosis, with as far as possible a correlation of antemortem and postmortem findings. Of the 100 cases eighty-two were diagnosed by postmortem recovery of the organism, or by the roentgen ray showing miliary tubercles of the lungs. The eighteen remaining cases were clinically typical with spinal fluid mononucleosis, etc. In seventy cases meningeal symptoms predominated. In the remaining thirty the picture clinically was more like that described in the textbooks as general miliary tuberculosis. Eighty per cent. of the cases of tuberculous meningitis had general miliary lesions throughout the body as well as in the meninges. In 90 per cent. of these cases a tuberculous lesion of some variety was found elsewhere than the meninges. The average duration of disease of all types from history of onset to death was 36.5 days. Admission diagnosis was noted in forty-five cases of the series. This diagnosis was more often wrong than right. It was approximately correct in 47 per cent. of the cases. In the remaining 53 per cent. typhoid fever was the most frequent wrong diagnosis. Eighteen per cent. of the cases were diagnosed acute lobar pneumonia. All of these were of the general miliary type. The remaining wrong diagnoses included uremia, malaria, cirrhosis of liver, spondylitis and septicemia. On postmortem examination an active tuberculous lesion of some sort was found in the chest viscera in 90 per cent. of the cases. The pleura was involved in 58 per cent. and the lungs in 80 per cent. It is an interesting fact that approximately one third of the patients with meningitis did not stress headache as their chief complaint. These were the cases most often suspected to be typhoid. Their history was usually that of malaise, mild headaches, loss of appetite, prostration, fever and in some cases diarrhea. In nine cases there was a history of nose bleed. Convulsions occurred in 12 per cent. of all cases. There was a history of vomiting in 40 per cent. Night sweats occurred in 14 per cent. Only six patients complained of abdominal pain; yet on postmortem examination 80 per cent. of the subjects had tuberculous involvement of some abdominal viscera. In only three was the spleen enlarged sufficiently to be felt. By weight the spleen was found distinctly enlarged only once. A general adenopathy was present in five cases. Stiffness of the neck was apparently more reliable as a sign of meningeal irritation than Kernig's sign. It was often definitely present when Kernig's sign was doubtfully positive or negative. About one fourth of the total number of meningitic cases gave a negative Kernig's sign on admission to hospital. Forty-five per cent. of cases had miliary tubercles of the kidneys, yet outside the usual albuminuria with occasional hyaline casts, there was usually nothing to convict the kidneys. The high percentage of cases showing lesions of the kidneys suggests that efforts to find tubercle bacilli in the urine should be made more frequently.

Philippine Journal of Science, Manila

December, 1921, **19**, No. 6

*Various Methods of Serum Application in Bacillary Dysentery. P. T. Lantin, Manila.—p. 629.
Unsymmetrical Addition to Double Bond. I. A Theory of Reaction Mechanism of Direct Union. G. A. Perkins, Manila.—p. 645.

Charophyta from Annam and Guam. J. Groves, Yarmouth, England.—p. 663.
Philippine Wasps of Subfamily Sphecinae. S. A. Rohwer.—p. 665.
Two New Species of Plants from Hainan. E. D. Merrill, Manila.—p. 677.
Dissociation of Hexaphenylethane from Viewpoint of Octet Theory of Valence. H. I. Cole, Manila.—p. 681.
New or Noteworthy Philippine Birds. IV. R. C. McGregor, Manila.—p. 691.
Violets of Philippines. Von Wilhelm Becker, Rosian (Magdeburg).—p. 707.
Secondary Sexual Characters in Loach Misgurnus Anguillicaudatus Cantor. K. Okamoto, Tokyo, Japan.—p. 723.
Structure of Chlorine Dioxid and Related Compounds. G. A. Perkins, Manila.—p. 729.
Cercospora Leaf Spot of Coffee. C. G. Welles.—p. 741.
Cercospora Leaf Spot of Averrhoa Carambola. C. G. Welles.—p. 747.

Antidysenteric Serum Administered by Rectum.—Various methods of administering antidysenteric serum were used by Lantin, namely, (1) by the rectum alone, (2) intramuscular injection and by rectum (enema), (3) intramuscular injection alone, (4) intramuscular and intravenous injection, (5) intravenous injection alone. In view of the established facts, set forth by qualified observers, Lantin says, the local use of the serum seems not to be unscientific. Considering well the morbid changes in the large intestine, where acute inflammation and ulceration are taking place, and recalling that that is the site where the virus flourishes best, continuously elaborating the toxins, the working basis for the use of the local application of serum is evident. As it has been found that the serum is both antitoxic and bactericidal, its administration would mean, then, the neutralization, locally, of the unobserved toxins and the decreased vitality of the virus, if not its actual death. Clinical observations seem to support this view. Twenty-four hours after the administration of serum by rectum, the patient feels a marked alleviation of the subjective symptoms; the colicky pain is diminished, as well as the tenesmus; stools decrease in number; and the temperature is lower. During succeeding days the stools become less bloody and mucoid, then feculent, and then of soft consistence. This method is of great advantage only when the patient is able to retain the serum for a long period. Many patients prefer this method because it is not painful. The combined method (serum by rectum and intramuscular injection) has given just as good results as any method of administering the serum, and is safer than the intravenous method. Above all it must be given early, even in cases in which bacillary dysentery is only suspected, in order to produce good results.

Texas State Journal of Medicine, Fort Worth

April, 1922, **17**, No. 12

Diagnosis of Chronic Infection of Gallbladder and Ducts. H. T. Wilson, San Antonio.—p. 564.
Duodenal Tube in Diagnosis and Treatment of Diseases of Biliary Tract. O. B. Kiel, Wichita Falls.—p. 568.
Intestinal Tube from Diagnostic and Therapeutic Standpoint. S. T. Lowry, San Antonio.—p. 571.
*Significance of Pain in Right Abdomen. R. W. Baird, Dallas.—p. 574.
Pneumoperitoneum. C. L. Martin, Dallas.—p. 577.
*Case of Intestinal Obstruction Due to Diverticulum and Accessory Pancreas. C. Johnson, Fort Worth.—p. 579.
Gambusia Affinis, Natural Agent for Destroying Mosquito Breeding in Texas. G. W. Park, Austin.—p. 579.

Significance of Pain in Abdomen.—Of 500 cases analyzed by Baird which the chief complaint was pain in the right abdomen, 211 proved to be cases of appendicitis; neuritis, 96 cases; cholecystitis, 83 cases; pyelitis, 54 cases; salpingitis, 26 cases; pleuritis, 6 cases; ileocolitis, 6 cases; vasitis, 4 cases; urticaria (erythema nodosum), 2 cases; visceroptosis, 9 cases, and undetermined, 3 cases.

Intestinal Obstruction Due to Diverticulum.—In Johnson's case an ileac diverticulum, the length and size of a glove finger, with the distal end stuck to a loop of small intestine, caused obstruction. There was a small glandular body the size of a kidney bean attached to the tip of the diverticulum and the loop of intestine. The diverticulum was located approximately twenty-four inches from the cecum, springing from the ileum. A small mesentery was present. The diverticulum was removed and the stump inverted. Recovery was uneventful. The small glandular body proved to be pancreatic tissue.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

April 8, 1922, **1**, No. 3197

Rise and Progress of Laryngology. W. Milligan.—p. 547.
*Nature and Significance of Heart Symptoms. J. Mackenzie.—p. 551.
*Peptic Ulcer. K. W. Monsarrat.—p. 553.
*Treatment of Perforated Gastric and Duodenal Ulcer. A. H. Southam.—p. 556.
*Hereditary Microphthalmia. W. M. Ash.—p. 558.
Interpretation of Symptoms in Disease of Central Nervous System. A. Feiling.—p. 559.
Hemorrhagic Colitis. T. MacCarthy.—p. 560.

Nature of Mechanism Regulating Heart Beat.—The mechanism concerned in regulating the heart beat, Mackenzie says, belongs to the vital process included under the term "reflex." The cells taking part in this mechanism belong to two groups: an extrinsic, connected to the nervous system by the vagus and sympathetic nerves, and an intrinsic, which includes the sino-auricular and auriculoventricular nodes, and the Purkinje cells in the bundle and auricles and ventricles. Agents of disease (toxins) which modify the rate and rhythm act on different parts of this mechanism, and certain disease agents produce characteristic effects. Drugs that influence the rate and rhythm of the heart act in the same way, some of them also producing characteristic effects. As toxins act on the same parts as drugs the effects of drugs will be modified by the effects of the toxins. Before the effects of a remedy can be investigated it is necessary to know if the toxins have not already produced an effect which will interfere with the action of the remedy. The kind of knowledge which disturbances of the reflex process reveals is limited to the variations in rate and rhythm, and they give no information regarding the functional efficiency of the heart.

Treatment of Peptic Ulcer.—The necessity for operative treatment of peptic ulcer, apart from complication, Monsarrat states, arises from its resistance to other forms of remedy. In treatment attention must be paid to three main points: (1) the ulceration itself; (2) the activity, or excessive activity, of the gastric secretion, and the default of the mechanism which normally controls this; (3) the disturbances of motor function which precede and account for both. Surgical treatment deals with ulcer (1) by methods of removal which leave no embarrassing deformity behind; (2) by anastomosis, which provides a permanent check on the peptic attack of the gastric juice; (3) by removing any focus of disease elsewhere. In all the cases reviewed by Monsarrat there had been a lengthy period of medical treatment extending from many months to many years. The surgical remedy for duodenal ulcer is posterior gastrojejunostomy. In gastric ulcer healing is most certainly brought about by removal of the ulcer. In all the cases recorded by Monsarrat the method employed was the posterior Polya or Reichel operation.

Treatment of Perforated Gastric Ulcer.—The treatment of perforated gastric and duodenal ulcer in Southam's opinion is entirely surgical, and the prognosis largely depends on the time when operation is performed. Recovery is contingent on early diagnosis and prompt surgical treatment, for delay almost inevitably leads to a fatal termination. During a period of two years he operated in a consecutive series of forty-six cases of acute perforated gastric and duodenal ulcer. Four patients died following the operation, giving an operation mortality of less than 9 per cent.

Hereditary Microphthalmia.—Ash presents the history of a family affected with hereditary microphthalmia. Among thirty-four traced members there were eleven cases of congenital blindness. All the affected members were males, the condition being transmitted through healthy females, as in hemophilia; the children of male members of the family are normal. In that branch of the family in which Ash has been particularly interested, of four boys three are blind from congential microphthalmia, while the twin brother of one of the boys is normal. The one female child is normal. The father and mother are normal persons. In fact, the parents of all the blind children throughout the family are apparently nor-

mal. There is no evidence of consanguinity in the family and no history or evidence of syphilis. One is an epileptic; all the other children are free from congenital or acquired disease apart from microphthalmia.

Calcutta Medical Journal

January, 1922, **16**, No. 7

Organotherapy in Modern Medicine. B. C. Roy.—p. 5.
Internal Secretion of Thyroid and Parathyroids. J. C. Aich.—p. 9.
Internal Secretion of Suprarenal Glands. A. Chakravarti.—p. 23.
Internal Secretion of Pituitary Body (Hypophysis Cerebri). S. P. Neogy.—p. 31.

February, 1922, **16**, No. 8

Ductless Glands in Relation to Female Reproductive System. S. N. Bagchi.—p. 41.
Internal Secretion of Pancreas. I. Basu.—p. 50.
Gastro-Intestinal "Hormones," or Internal Secretion of Stomach and Intestines. A. Banerji.—p. 62.
Internal Secretion of Spleen. J. C. Aich.—p. 66.
Internal Secretion of Liver. A. Chakravarti.—p. 68.
Internal Secretion of Kidneys. J. C. Aich.—p. 71.
Internal Secretion of Testes. D. N. Banerji.—p. 73.
Internal Secretion of Thymus. G. Panja.—p. 77.
Internal Secretion of Pineal Gland. J. Chandra.—p. 80.

Lancet, London

April 15, 1922, **1**, No. 5146

*Sixty-Five Patients Seeking Relief After Short-Circuiting Operations. E. I. Spriggs and O. A. Marxer.—p. 725.
*Arsphenamin Jaundice: Its Causation, Incidence and Treatment. F. Chamberlain.—p. 733.
*Two Cases of Malformation of Kidney in Infancy. E. B. Smith and E. H. Shaw.—p. 737.
Impetigo Contagiosa as Seen in Schools. A. I. Simey.—p. 738.
*Extensive Human Infection by Sarcoptic Mange of Horse. R. A. S. Macdonald.—p. 738.
Further Experiences with Schick Test. R. A. O'Brien, A. J. Eagleton, C. C. Okell, A. T. Glenny and E. M. Baxter.—p. 739.

Results of Short Circuiting Operations.—Of the sixty-four consecutive patients whose cases are described by Spriggs and Marxer, fifty-one had had a gastro-enterostomy performed, nine a partial colectomy, and four an ileosigmoidostomy. About half the patients who sought relief after gastro-enterostomy recovered from their symptoms or improved greatly with lapse of time and suitable medical treatment. In most of the remainder a detailed investigation showed abnormalities which are capable of relief by a further operation. The conditions which call for a second operation are the persistent failure of medical treatment and inability of the patient to live a normal life: particularly if it can be demonstrated that bile is regularly in the stomach, or that the stoma is not in the lowest part causing accumulation of food between the stoma and the pylorus, or that the jejunal loops are not normal in appearance, or that there is dilatation of the duodenum and regurgitation of bile; or if there is evidence of ulceration in the neighborhood of the stoma, or of active ulceration of the stomach or duodenum. Except for structural disease, Spriggs and Marxer state, short-circuiting operations on the colon should not be performed unless (1) suitable and persistent medical treatment has failed; and (2) sound scientific reasons can be put forward for believing that the operation will benefit the patient. In all cases of chronic alimentary disease treatment, and especially operative treatment, should not be undertaken until the case has been investigated as thoroughly as the circumstances permit.

Arsphenamin Jaundice.—In a series of 1,200 arsphenamin treated cases of syphilis analyzed by Chamberlain there had been sixty-four cases of jaundice. The cases fall into four groups: (1) jaundice occurring some time after treatment, fifty-four cases; (2) jaundice occurring immediately after injection or accompanied by a recurrence, four cases; (3) cases in which arsphenamin had not been used, two; (4) fortuitous jaundice, four cases. The factors in the problem are: (1) the drug, (2) the method, (3) the surgeon, (4) the disease, and (5) the patient. It seems that the use of a combination of substitutes, or of a substitute which is difficult to dissolve, is a possible factor in the causation of jaundice. There seems to be a definite balance in favor of the syringe method. Dosage by itself does not seem to be a factor. The previous administration of arsphenamin, or irregularity in administration, seems to be a decided factor. The operator does not seem to cause jaundice, but in so far as he is concerned in the storage of the drugs he must be considered as a factor. The state of the disease is not a factor. Some men are intolerant of arsenic in any form, others can be rendered arsphenamin sensitive by previous injection of the drug. A strong healthy type of man is exceedingly unlikely to get jaundice. A weakly or degenerate type is likely to get jaundice as the result of any of the noxious factors. The administration of mercury, whether by pill, intravenous or intramuscular injection, concurrently with arsphenamin medication, seems to play no part. The facts enumerated suggest that the possible noxious factors are, in order of importance: (1) a "sensitizing" dose or course of arsphenamin; (2) irregularity in intervals between injections; (3) use of more than one arsenobenzol compound in the same course; (4) storage of the drug in a warm place; (5) gravity method, unless a new rubber tube is used after every few injections; (6) relative insolubility of the drug; and that all these factors are rendered immeasurably more noxious if the patient be degenerate, uncared far, or an alcoholic.

Malformation of Kidney.—In one of the cases reported by Smith and Shaw a condition of bilateral hydronephrosis was shown, with marked dilatation and convolution of the ureters, which were duplicated on either side. An elongated tumor felt during life was an enormously dilated and tortuous left ureter. The kidneys, ureters, and entire bladder were removed and submitted to dissection, an account of which is given. In the second case both kidneys were slightly enlarged, both exhibited a moderate degree of hydronephrosis, the pelves and calyces being widely dilated and the kidney tissue reduced in each instance to a narrow belt from one-quarter to one-third inch in diameter. From the upper pole of the right kidney there arose from a narrow orifice a widely dilated and convoluted ureter an inch in diameter. This ureter ended blindly in the right side of the bladder wall. From the pelvis of the same kidney a moderately dilated and tortuous ureter descended and opened normally into the bladder. From the left kidney a similar malformed ureter arose normally from the pelvis and presented a normal ureteric orifice in the bladder. The wall of the latter was distinctly thickened and hypertrophied. No signs of obstruction could be detected at either opening of the ureters or at the urethral orifice. Sections of the kidney tissue showed no abnormal changes.

Human Infection by Sarcoptic Mange of Horse.—The circumstances of the outbreak reported on by Macdonald are peculiar. A class of veterinary students was engaged in the performance of postmortem operations on a horse. The horse had a history of generalized sarcoptic mange, the disease having gained such a hold that it was considered an unsound economic proposition to proceed further with treatment. It was destroyed one morning at 10 a. m. and thereafter was left lying on a concrete floor while the students palpated, dissected, and operated on the carcass for a period of time which varied with the individual from two to five hours. Of the students who had any contact with the carcass in question, approximately 53 per cent. became infected. On the other hand, the noninfected individuals were either those who were engaged on the head and neck (which parts had been cured by the previous treatment) or those who had been little more than onlookers, in that they had been engaged in swabbing incisions, etc., to assist the actual operators. In short, of these students whose hands and clothing came into direct and prolonged contact with the infected carcass 100 per cent. complained of subsequent symptoms. The most constant symptoms common to every case were: itch of a most pronounced and continuous nature, accentuated by surface warmth, induced by exercise, by lying in bed, and by friction in the process of inunction of the affected areas, and a papular eruption present in all the affected cases at the site of contact with the carcass—i. e., forearms, ankles, and calves of the legs. The hands in most cases, though not in all, escaped infection, no doubt owing to washing with phenol soap immediately after, or in some cases during, the work on the dead subject. The carcass was scraped twenty-four hours after death. *Sarcoptes scabici* were found to be present in abnormally large numbers.

Medical Journal of Australia, Sydney

March 11, 1922, **1**: No. 10

Pharmacy and Chemistry of Australian Pharmaceutical Formulary. R. C. Cowley.—p. 259.
Indications for Tonsillectomy in Children. R. M. Downes.—p. 261.
Syphilis in Children. H. B. Graham.—p. 265.
Psychiatric Clinic. R. A. Noble.—p. 269.
*Chronic Intussusception. H. H. Schlink.—p. 270.

Chronic Intussusception.—Schlink's patient, aged 7, recovered from the acute symptoms which accompanied the invagination of the cecum as well as the ileocecal valve and lower part of the ileum into the ascending colon. Peristaltic action gradually passed the intussusceptum on until the apex lodged in the rectum. The patient lived two months after the onset of the trouble as if the large bowel had been excised. No blood appeared per rectum either during the acute initiation of the intussusception or during its progress along the ascending, transverse and descending colons, or while resting in its final position. Reduction was effected and the patient made an uneventful recovery.

Sei-I-Kwai Medical Journal, Tokyo, Japan

March, 1922, **41**, No. 1

*Obstruction of Hepatic Portion of Inferior Vena Cava and of Hepatic Veins Due to Syphilis. T. Kimura.—p. 1.

Obstruction of Veins in Liver Due to Syphilis.—Of the eighty-two cases of obstruction of the hepal portion of the inferior vena cava reported in the literature, eighteen (22 per cent.) were syphilitic. Kimura is of the opinion that the condition is more common than has been believed to be the case. He has seen four cases. It seems that a pressure due to gumma formation and a cicatrical contraction of scar tissue are to be considered as a primary cause of this change. Thrombosis, which is often observed in the cases of obstruction due to syphilis, appears to develop secondarily as the result of slowing of the blood current and local irritation due to propagation of the syphilitic lesion. As regards to a relationship between obstruction of the inferior vena cava and those of hepatic veins, Kimura believes it is possible that these changes may occur independently in both vessels; therefore Sternberg's contention may be correct.

South African Medical Record, Cape Town

March 11, 1922, **20**, No. 5

Relations Between Gonorrhea and Diplococcus Neisseri. C. Pijper.—p. 82.
*Two Cases of Brain Tumor. F. H. Kooy.—p. 88.
Etiology and Treatment of Accidental Hemorrhage. E. C. Crichton.—p. 91.

Brain Tumors: Endothelioma; Sarcoma.—One of Kooy's cases was diagnosed tumor of the central gyrus. The tumor was removed easily, being encapsulated and free from the brain. Pathologic examination proved it to be an endothelioma. The chief symptoms were a paresis of the left leg and convulsions. A few days after operation, the patient got severe headache, and a complete paralysis of the left arm. By puncture a rather deep abscess was found, opened, and drained in. In the course of the next week this abscess healed, but the complete paralysis of the left arm remained. The attacks had stopped, and the headache was nearly entirely gone. Soon after he got the jacksonian fits again, also the headache; afterward he got into a semicomatose condition, finally ending in complete coma and death. In the second case the absence of any affection of the cranial nerves, the rather sharp cerebellar localization, and the predominance of the increased intracranial pressure over the meningeal symptoms, decided in favor of the diagnosis of tumor. The symptoms suggestive of a lesion of the left cerebellar hemisphere were: a marked adiadochokinesis in the left arm and hand, a hypermetria with deviation to the left, cerebellar asynergia, again with tendency to fall to the left and with deviation to the left when walking. Percussion of the left occipital bone was painful. The marked hypermetria, adiodochokinesis, and asynergia made it certain that this tumor was situated in or on the left cerebellar hemisphere. The fact that all the symptoms were most marked in the arm suggested a localization rather anteriorly in the left lateral lobe. This supposition was proved to be correct by operation. Pathologic examination proved it to be a sarcoma. The patient improved quickly after operation, and was discharged nearly completely recovered.

Annales de Médecine, Paris

January, 1922, **11**, No. 1

*Diagnosis of Pleuropulmonary Fistula. L. Bard.—p. 1.
*Mineral Water Diuresis. P. L. Violle.—p. 19.
*Tumor of Corpus Callosum. G. Guillain.—p. 33.
*Therapeutic Action of Light. F. de Groer.—p. 52.
*Regeneration of Parenchyma Tissue. Nathan.—p. 59.
*Plant Cancers. G. Roussy and M. Wolf.—p. 75.

Fistulas with Artificial Pneumothorax.—Bard presents arguments to prove that the tearing of some adhesion during the course of an induced pneumothorax is liable to cause a fistula between pleura and lung, and that this is a frequent cause of the pleural effusion so often noted in these conditions. He describes a simple tube and glass of water test; air bubbles through the water as the patient coughs. The intrapleural pressure drops at once, but then in a minute or two it returns to the previous figure. If the tube is pinched, the pressure does not vary with the coughing.

The Diuresis During Courses of Mineral Waters.—Violle practices at the French spa, Vittel, and his experience has shown the importance of graduating the course of mineral waters to the exact individual functional capacity of the kidneys. In the majority, the diuresis is proportionally more abundant with small amounts of mineral waters than with large. Everything depends on the permeability of the kidneys, and the aim in treatment is to graduate the intake to utilize to the utmost what permeability there is. It is possible to estimate this by the record of the output of urine as the patient drinks 25 gm. of water every fifteen minutes, during and between meals, to a total of 500 gm. and no other fluids, reclining all the time and urinating each hour regularly. The charts from a number of cases are given, showing how by utilizing the information obtained from this test diuresis it was possible to adjust the course of the mineral waters to insure the maximum of benefit. In one case an obese diabetic had high glycemia; glycosuria of 35 gm.; positive Gerhardt reaction; intense anemia, asthma, continuous headache and inadequate urine output, but the blood pressure was not very high. Violle kept him in bed and gave 500 gm. of water in amounts of 50 gm. every fifteen minutes. The chart shows the defective elimination of urine at first, gradually improving, until by the fifth day the output equaled the intake, and then progressively surpassed it, while the sugar dropped to 11 gm., and there was no further headache or hypertension.

Tumors of the Corpus Callosum.—Guillain describes a case in which the diagnosis of a tumor in the corpus callosum of the man of 52 was confirmed by necropsy. He compares with this the similar cases on record, and outlines the clinical picture that suggests a tumor in the splenium of the corpus callosum. The mental disturbances occur earlier, he says, and are more characteristic than with tumors elsewhere in the brain.

Therapeutic Action of Light.—De Groer declares that the effect of exposure to the sun's rays is analogous to that of parenteral protein therapy. There is a typical hemoclastic crisis, but this is transient, and is followed by leukocytosis. When only a well tanned region is exposed to the rays, the hemoclasis does not occur. The pigmentation evidently protects against it. Hence, he continues, the regions exposed should be systematically arranged so as to have always some nontanned region available. The changes liable to be induced throughout the organism by the exposures to the chemical rays were instructively shown by the Schick test. He inoculated the back with diphtheria toxin, four and two hours before the test, during the test, and again two and four hours afterward. Instead of completing the test with antitoxin, as in Schick's original method, he exposed the abdomen to the chemical rays, and gives an illustration which clearly shows the difference in the reaction when the system is or has been recently under the influence of the chemical rays. Every prolonged exposure to them acts like a poison on living matter. Besides the local inflammatory reaction, the absorption of products from the damaged cells induces a general

reaction. The mechanism of protein poisoning from an extensive burn differs only in degree from that induced by the action of sunlight or mercury vapor light. He adds that in applying the chemical rays we must discriminate between their ergotropic action, their disinfecting action, and their irritating action, pigment production being merely a product of local inflammation.

Restoration of Parenchyma.—Nathan refers to Champy's extravital cultivation of cells of mixed epithelium and connective tissue. When the latter far outnumbered the epithelium cells, their reproduction practically crowded out the epithelial cells. But when the latter were predominant, they proliferated regularly and profusely. Nathan has realized this same cultivation of epithelial cells, but his culture medium was loose connective tissue. He transplanted this into the midst of the parenchyma of a living organ in its normal place. The parenchyma cells grew into the connective tissue, and in this way a large defect in the parenchyma might fill up with true parenchyma tissue. This repair cannot occur when the parenchymatous organ is enclosed in its tight capsule, separating it from all the connective tissue around. His experimental research on rabbits has confirmed the possibility of restoration in this way of a defect in the liver, kidney, thyroid and peripheral nerves and also of bone tissue when loose-meshed connective tissue is implanted. Ten photomicrograms show the results in rabbits and dogs. The functional value of the restored tissue is still a question, as also whether there is any prospect of applying this method in treatment of chronic liver and kidney diseases in man.

Cancer in Plants.—Roussy and Wolf remark that all the plant tumors known to date are of infectious origin. Like the infectious sarcoma of birds, they seem to be intermediate between inflammatory processes and neoplasm processes, but further research may classify them more definitely.

February, 1922, **11**, No. 2

*Syphilitic Diabetes Insipidus. J. Lhermitte.—p. 89.
*Malarial Edema. P. Sainton, C. Richet, Jr., and Schulmann.—p. 128.
*Oculogastric and Oculocolic Reflex. D. Daniélopolu et al.—p. 143.
*Case of Latent Neurosyphilis. C. I. Urechia.—p. 158.
Primary Fulminating Pneumococcus Meningitis. G. Bickel.—p. 168.

Syphilitic Diabetes Insipidus.—Lhermitte's diagnosis in a case reported was polyuria secondary to syphilitic meningitis at the base of the brain, and this was confirmed by necropsy, the meningeal lesions being restricted to the region of the infundibulum and the tuber cinereum. He reviews the experimental, clinical and necropsy data that have been published on this region in relation to diabetes insipidus, and its connection with syphilis, tuberculosis and trauma, the effect of spinal puncture and of pituitary treatment, and gives photomicrograms from his case. The patient was a tabetic of 65. The final conclusion from all this material is that diabetes insipidus must be regarded as a derangement of kidney secretion, and that this derangement is conditioned by a severe pathologic condition limited to the tuber cinereum and its infundibular prolongation. The threshold for water is lowered, and there is nothing surprising in the fact that this lowering of the threshold is secondary to a primary lesion in the vegetative center at the base of the brain, the center regulating the hydratation of the organism. The endocrine system can be exculpated.

Edema of Malarial Origin.—In the two cases of anasarca in the course of malaria, reported here, the heart and kidneys seemed to be intact, and there was no albuminuria. The subsidence of the edema under quinin treatment confirmed its malarial origin.

Oculogastric and Oculocolic Reflexes.—Compression of the eyeball induces a number of reflexes involving viscera, as well as the familiar oculocardiac reflex. Daniélopolu reports extensive research on them and on the mode of their production.

Latent Neurosyphilis.—Urechia reproduces the microscopic findings in a man of 42 with positive spinal puncture findings, slight anisocoria and extreme asthenia, who had died from the effects of aortitis plus coronaritis. His syphilis was of fifteen years' standing and the brain showed ameboid transformation of the neuroglia.

Bulletin Médical, Paris

March 25, 1922, **36**, No. 13

*Artificial Pneumothorax. G. Kuss.—p. 241.
*Artificial Pneumothorax for Dilatation of Bronchi. E. Rist.—p. 246.
Indications for Artificial Pneumothorax. P. Ameuille.—p. 249.
Artificial Pneumothorax for Gangrene of Lung. D. Denéchau.—p. 253.

April 1, 1922, **36**, No. 14

Conflicting Clinical and Laboratory Findings After Prolonged Artificial Pneumothorax. Hervé and Legourd.—p. 267.

Artificial Pneumothorax.—Kuss analyzes the mode of action and the reasons for failure, and warns of dangers to be avoided in inducing the pneumothorax. A fine trocar is safer than a needle, pushing a blunt guide beyond the tip when the pleura is reached. Manometer control is indispensable, and he never forcibly insufflates the nitrogen but lets the patient aspirate it as he breathes, the intake ceasing at each expiration. If adhesions are to be stretched and broken, he advises to use oxygen rather than nitrogen at this sitting. Oxygen is more readily absorbed and it reduces the danger of gas embolism, although not suppressing it entirely. It is better to begin insufflating not more than 200 or 300 c.c. of the gas, proceeding tentatively and slowly. One of the conditions essential for success is good hygiene.

Artificial Pneumothorax in Treatment of Dilatation of the Bronchi.—Rist says that of the 22 patients with bronchiectasis in his service since June, 1919, the condition had been mistaken for pulmonary tuberculosis in 14. Several in this group had spent years in a sanatorium. In 11 the bronchiectasis had developed after pneumonia; it had followed measles or scarlet fever or whooping cough in several, a foreign body in 2 cases, and in another case a syphilitic origin seemed probable. Rist has applied artificial pneumothorax in treatment of a number of these cases, and the results have been very gratifying when the location of the dilatation was such as to insure ample drainage. In one man the compression seemed to kink the outlet, and the dyspnea was not relieved until the compression was reduced. A partial pneumothorax plus thoracoplasty was required in some cases.

Bulletins de la Société Médicale des Hôpitaux, Paris

March 17, 1922, **46**, No. 10

*The Frontiers of Syphilis. P. Merklen.—p. 461.
*Iodized Oil in Roentgenoscopy. Sicard and Forestier.—p. 463.
Nonpenetration into Trachea of Certain Supposed Intratracheal Injections. C. Lian et al.—p. 470.
*Visual Epileptic Equivalents. A. Léri and Béhague.—p. 472.
Bradysphygmia on Effort in Case of Heart Block. C. Laubry and A. Mougeot.—p. 479.
Hereditary and Familial Ophthalmoplegia. M. Pinard and Béthoux.—p. 483.
Serotherapy plus Calcium in Gonococcus Rheumatism. B. Weill-Hallé and H. Chabanier.—p. 486.

The Frontiers of Syphilis.—Merklen objects to a recent statement that hysteria and kleptomania are manifestations of inherited syphilis, while Pinard reiterates that inherited syphilis—often even in the second generation—breeds kleptomaniacs.

Iodized Oil as Contrast Medium in Radioscopy.—Sicard has obtained very instructive radiograms by injecting an oil solution of iodin into the epidural and other cavities, and even into the bronchi and lungs. The oil has to be injected directly into the trachea for the latter.

Visual Epileptic Equivalents.—Léri and Béhague report seventeen cases of visual disturbances occurring just before or with epileptic seizures or as an equivalent. Analysis of the cases demonstrated that these visual auras or equivalents were observed only with a lesion in the occipital lobe. In addition to these epileptic cases they describe a case suggesting ophthalmic migraine except that the stars, colored waves and other visual phenomena and headache were bilateral. There was chronic bilateral otitis in the man of 42, dating from childhood, and these phenomena were probably due to some meningeal or cortical reaction in the occipital region. In another case syphilitic meningitis induced the visual phenomena, followed in three or four minutes by an epileptiform seizure. Under specific treatment the seizures ceased, but there is still occasionally the vision of a brilliant whirling wheel.

Gynécologie et Obstétrique, Paris

March, 1922, **5**, No. 3

*Hysteropexy During Pregnancy. A. Rosner.—p. 185.
Relaxing and Contracting of Myomatous Uterus During Laparotomy; Three Cases. O. Beuttner.—p. 191.
*Hysterotomy for Placenta Praevia. Brouha.—p. 198.
*Galactoceles. E. Grynfeltt and Tzélépoglou.—p. 204. Conc'n.
*Pituitary Treatment of Metrorrhagia. S. Mossé and M. Fabre.—p. 228.

Hysteropexy and Gestation.—The hysteropexy in Rosner's case had entailed unyielding adhesions, and he broke them up through a laparotomy, four months before term, without interfering with the pregnancy. The effect of hysteropexy is that the uterus wall does not stretch evenly, and this has to be supervised as the pregnancy progresses, ready to operate unless the adhesions stretch.

Abdominal Hysterotomy for Placenta Praevia.—Brouha regards hysterotomy as indicated when the hemorrhage is menacing, the cervix is still long and closed, and the placenta is attached centrally or at the extreme margin. He prepares completely for the operation, and then waits until certain that ordinary measures are ineffectual. Six of the eleven women thus treated by abdominal cesarean section were primiparas. Recovery was smooth in eight cases, febrile in two, and one woman died four hours later from the anemia resulting from preceding hemorrhages. There was very little bleeding at the high hysterotomy in any instance; this incision avoids the site of the placenta.

Galactoceles.—The first part of this article was reviewed on page 1347. Nearly five pages of bibliographic titles are appended here.

Pituitary Treatment of Metrorrhagia.—Mossé and Fabre explain that pituitary treatment acts by inducing a vasoconstrictive action on the vessels, in the uterus and ovaries, and by checking the internal secretion of the ovaries as well as by inducing contraction of the uterus musculature. They have found it extremely useful in the over-profuse hemorrhages at puberty, arresting excessive bleeding and warding off further excess when the pituitary extract is injected a few days before the next menses. It has also aided in arresting hemorrhages at the menopause, as also in metrorrhagia of emotional origin. Pituitary treatment is not called for in cases of tumor, infection or heart, liver or intestinal derangement. As pituitary extract raises the blood pressure, the heart and pressure should always be examined beforehand.

Journal de Médecine de Bordeaux

March 25, 1922, **94**, No. 6

*Primary Acute Typhlitis. L. Verdelet and J. Chavannaz.—p. 167.
*Pneumococcus Endocarditis. Creyx, R. Damade and C. Massias.—p. 168.
Stages and Limits of Tranvesical Prostatectomy. J. Oraison.—p. 170.
*Ink Test for Suspected Jaundice. J. L. Roumaillac.—p. 173.

Primary Acute Typhlitis.—Verdelet and Chavannaz report the case of a man of 64 with perforation of the anterior portion of the cecum, entailing death by general peritonitis.

Mitral and Auricular Pneumococcus Malignant Endocarditis.—Creyx and his co-workers report the subacute course in a man of 26 of an infectious pneumococcus ulcerovegetative endocarditis producing anemia, emaciation and fever, septicemia and fatal embolism in old rheumatismal heart lesions.

Ink Test for Subjaundice.—Roumaillac has used what he calls his violet ink test for several years to disclose faint, atypical jaundice in the skin. Violet color is the proper reflector of yellow, and increases its intensity wherever it comes in contact with it. To examine a patient in whom he suspects icterus, not yet apparent in the skin, he traces a line with his fountain-pen filled with violet ink. At once the zones of skin separated by this line take a very apparent yellowish tint.

Journal de Radiologie, Paris

March, 1922, **6**, No. 3

Radiologic Anatomy of the Lungs. J. Garcin.—p. 110.
Radiotherapy of Malignant Tumors. Perthes.—p. 122.
*Photography with Radium Emanation. A. Kotzareff.—p. 131.

Radium Emanation for Photography of Organs.—Kotzareff states that the emanation of radium in solution form can be used by subcutaneous, muscular or intravenous injection and also in cavities. It can be injected with or without an opaque substance. He cites a case of carcinoma of the uterine cervix, in which, after three injections in the tumor the plate revealed four well defined lobes. He believes that radiumgraphy can be introduced now in practical medicine, especially when a roentgen-ray apparatus is not available, but its technic must be improved. It should be useful in cancer of the esophagus, of the rectum, in fractures, etc., because it does not require the fatiguing moving of the patient, as only one plate is developed. The photograph of the lesion is a valuable possible by-effect of the treatment. The future only will reveal if it can be used in diagnosis, and if the radium emanation in solution form will render real services in therapeutics. After an intravenous injection of 15 millicuries in one woman with uterine cancer and cerebral metastasis, pains became less frequent and she regained sleep. The patient did not present any disturbance due to the injection.

Journal d'Urologie, Paris

February, 1922, **13**, No. 2

*Bilateral Polycystic Kidney. S. Rolando (Genoa).—p. 81.
*Phimosiectomy. Dartigues and Roucayrol.—p. 95.
*Electric Treatment of Bladder Tumors. J. Martin.—p. 99.
Perforation of Acute Ulcer of Bladder. G. Jean.—p. 103.
Tuberculous Pseudocystic Kidney. Reynard.—p. 107.

Polycystic Kidneys.—In 4 of Roland's 6 cases of bilateral polycystic kidneys there were no pains, but in one case acute pain with nausea and vomiting returned several times. The kidneys were enlarged, the left kidney pushing up the diaphragm and lung, the right kidney being pushed down by the liver. Polycystic kidneys are probably of congenital origin. He advises abstention from operative measures unless one's hand is forced by complications. In a recent compilation of 126 cases treated by nephrectomy, 38 died, 32 were cured and the outcome was uncertain in 56. Hematuria and anuria are complications only in an advanced stage, but infection of the polycystic kidney requires the usual treatment for suppuration in the kidney. In his first case, the woman of 35 died from the anesthesia and trauma of an exploratory laparotomy. The large right tumor had been supposed to be of genital origin, and the liver was polycystic as well as both kidneys. In all his cases the left kidney had escaped palpation as it pushed up the diaphragm. The only means to demonstrate the enlargement of the left kidney was by radioscopy, the lower margin of the left lung being found at the eighth or ninth rib instead of at the tenth rib as usual.

Phimosiectomy.—This term is used to indicate therapeutic circumcision in case of phimosis, followed by an invaginated circular suture. Six illustrations show the exact technic.

Tumors in the Bladder.—Martin reports the case of a man of 65 with recurring hematuria and numerous sessile tumors in the bladder, some of them bleeding. Malignant disease was assumed, and the high frequency current was applied at one sitting and again lightly on two occasions. Five months later not a trace of the tumors could be discovered. They had evidently been benign papillomas.

Lyon Chirurgical

January, 1922, **19**, No. 1

Transient Paralysis of Recurrent Laryngeal Nerve After Goiter Operations. L. Bérard.—p. 1.
Stock Vaccine Therapy of Adnexitis. G. Cotte and J. Creyssel.—p. 11.
*Reinfusion of Extravasated Blood. T. Rietz.—p. 34
Stock Vaccine Therapy of Adenophlegmons. L. Plisson.—p. 48.
*Hypotension in Cerebrospinal Fluid. R. Leriche.—p. 57.

Reinfusion of Extravasated Blood.—Rietz reports extensive experiments on 7 dogs, inducing intra-abdominal hemorrhage and then restoring the extravasated blood to the blood stream. The intervals ranged from fifteen minutes to nineteen hours. A kind of soft coagulation occurs, and this defibrinates the balance of the extravasated blood so that it does not coagulate on standing even for a week, or even when coagulating substances are added to it. The clots formed are small and soft, showing that they contain relatively few blood corpuscles, and the process thus differs somewhat from ordinary coagulation. The fluid blood has the aspect of normal blood, but its character is that of defibrinated blood, and thus it is adapted for infusion. This defibrination is probably realized by the respiratory and peristaltic movements in the abdomen.

The erythrocytes keep their normal color and shape, up to nineteen hours at least. Two of the dogs died after the idiotransfusion. The reinfusion in these animals had been done before the defibrination had occurred. This fact he accepts as the explanation of the fatal outcome. Coagulation had not occurred but was on the point of occurring, and it did occur after the extravasated blood had been infused. This upset the colloidal balance in the blood stream, with fatal results. To avoid this, the extravasated blood must be examined to see if it still coagulates or not, and wait till coagulation no longer occurs. To insure greater safety, he advises citrating the blood to about 4 per thousand, and straining the blood through filter paper or a double gauze compress. He warns against injecting fresh blood, and urges very slow infusion. The risks of this idiotransfusion seem to be greater, the more intense the anemia.

Clinical Pictures from Subnormal Pressure in the Cerebrospinal Fluid.—Leriche declares that too little cerebrospinal fluid is liable to cause symptoms just as well as too much. Headache, vertigo, convulsive phenomena and semiunconsciousness may be due to an acute or chronic deficiency of cerebrospinal fluid. The proof of the causal connection is afforded by the immediate cure when the amount of fluid is increased. The favorable effects of subcutaneous saline infusion may often be traced to the return of the cerebrospinal fluid to its normal pressure thereafter. He describes some instructive cases to illustrate this. In one young epileptic an abnormally low tension was corrected by subcutaneous injection of serum or intravenous infusion of distilled water, with the result that he had no further seizures. In a case of epilepsy, the *état de mal* subsided rapidly after a single intravenous injection of distilled water. He suggests that convulsions in children ought to be studied from this point of view. The hypotension may induce a semicomatose condition, like that with hypertension except that it is never so intense. It is more a profound torpor, and therapeutic raising the tension banished it in a few minutes in one case in which much fluid had escaped through a fracture of the petrous bone. As the fluid continued to ooze through the fracture, the semicoma returned again and again after the infusions of distilled water until the flow was finally stanched, and the patient recovered completely. These clinical pictures from hypotension have been observed after lumbar puncture; after war wounds of the skull and other trauma of the head; in a case of trigeminal neuralgia following herpes zoster, and in a case of headache long persisting after poisoning from illuminating gas. The amount of fluid may be inadequate from losses, from insufficient production, or from enlargement of the spaces that contain it. He has never tried pituitary treatment, but in two cases some improvement followed pericarotid sympathectomy. Surgical measures need scarcely be considered, however, as infusion seems to answer every purpose.

Lyon Médical

Feb. 10, 1922, **131**, No. 3

*Protein Therapy for Soft Chancres. L. M. Bonnet and P. Juvin.—p. 91.
Pathogenesis of Cancer. F. Duplant.—p. 128. Conc'n.

Protein Treatment of Soft Chancres.—Bonnet and Juvin state that protein treatment of adenitis and buboes due to soft chancres has been the subject of numerous works in various countries, and they here report thirteen of their own observations. They injected a uniform dose of 5 c.c. while some authors gave progressive doses of from 5 to 10 c.c. From the first injection the inflammation and pain decreased, and this action was more or less durable. Subsequent injections as a rule produced a similar action. Virulent buboes assume the aspect of a cold abscess and they generally heal then easily with an ordinary galvanopuncture.

March 25, 1922, **131**, No. 6

*Chronic Non-Tuberculous Arthritis. M. Durand.—p. 235.

Arthrodesis of the Hip-Joint in Chronic Nontuberculous Arthritis.—In Durand's case the man of 55 had suffered since the age of 24 from a chronic arthritis becoming more and more crippling. The patient was neither tuberculous nor syphilitic, and had no nervous disease, and never had had gonorrhea or trauma of this joint. The hip-joint under roentgen examination appeared to be normal, but the grave disturbances entailed by the arthritis called for arthrodesis. He sutured the capsule and immobilized in plaster, and thus obtained a very strong ankylosis, with disappearance of pain, and satisfactory function.

Paris Médical

March 25, 1922, **12**, No. 12

*Spartein a Depressant for Heart. J. Minet et al.—p. 245.
Myiasis of the Eye. A. Gabrielides and J. Guiart.—p. 249.
Treatment of Scoliosis. C. Roederer.—p. 251
*Treatment of Dacryocystitis. G. Pacalin.—p. 256.

Spartein a Depressant for the Heart.—Experiments on frogs and dogs and on healthy human subjects as well as clinical experiences have confirmed Minet's impression that spartein is useless in treatment of heart disease.

Chronic Dacryocystitis.—Pacalin advocates cauterization with 50 per cent. zinc chlorid in cases of chronic suppuration in the lacrimal sac, and reports a successful case in a young woman. The chronic dacryocystitis called for operative treatment, but this the patient absolutely refused. The simplicity of this treatment, which can be done in the office, the patient seated, and the complete success without any scar are special advantages of this treatment, which in some cases, but not all, insures the permeability of the lacrimal passages. The only drawback is the length of the course of treatment, thirteen days in his first case. He has applied the method in a number of others since.

Progrès Médical, Paris

Jan. 21, 1922, **37**, No. 3

Technic of Abdominal Radium Puncture of the Parametrium. Richard and R. Dupont.—p. 25.
Diverticula of the Bladder. Legueu.—p. 26.
Negative Reaction to Tuberculin in Children with Lung Affections. Nobécourt.—p. 28.
Chronic Asthenia and Mania. R. Benon.—p. 30.
*Hydrotherapy in Acute Prostatitis. Derecq.—p. 32.

Hydrotherapy in Acute Prostatitis.—Derecq reports a case to illustrate the advantages of hydrotherapy in certain cases of acute prostatitis of gonococcus origin. The acute prostatitis totally incapacitating the man of 28 was so severe that operative measures seemed indispensable for the impending abscess, but all the symptoms subsided under local heat: repeated injection of hot water into the rectum, and, twice a day, a ten-minute sitz bath with jets of hot water playing on the sacrolumbar region and perineum, the feet in hot water. The general circulation was stimulated by scrubbing the entire body with a haircloth glove and soap, concluding with interrupted jets of hot water at 40 C. By the eleventh day the cure was complete. Derecq has had a number of equally favorable cases.

Schweizerische medizinische Wochenschrift, Basel

March 23, 1922, **52**, No. 12

*Nutritional Derangement in Infants. E. Wieland.—p. 293.
*Coagulation Time. R. Feissly.—p. 300.
Pneumothorax Apparatus. E. Leschke.—p. 301.
Action of Lenses in Spectacles. C. A. Hegner.—p. 302.
"Geographic Distribution of Epilepsy." R. Ammann.—p. 303.

Nutritional Disturbances in Infants.—Wieland reviews the experiences in different countries with the butter-flour mixture and other innovations in infant feeding, but says that, in Switzerland, nothing of the kind seems to be needed to raise healthy children outside of the hospitals. The old and tried methods demonstrate their value constantly anew, provided the correct quantitative ratio between the child and the intake is observed, namely, the individual tolerance.

The Coagulation Time.—Feissly illustrates a coagulometer of simple device which, he says, is free from the drawbacks of the usual methods of estimating the coagulation time. He adds that for this purpose the blood should always be examined fasting.

Chirurgia degli Organi di Movimento, Bologna

February, 1922, **6**, No. 1

*Embryogenesis of the Articulations. G. Faldino.—p. 1.
Mechanism of Fractures. C. Ghillini.—p. 12.
*Myxomas in Articulations. G. Bolognesi.—p. 17.
*Experimental Lengthening of Limbs. O. Nuzzi.—p. 33.
*Treatment of Elephantiasis of the Leg. A. Pignatti.—p. 49.

*Reconstruction of the Tibia. U. Trinci.—p. 63.
Dislocation of Astragalus and Scaphoid. G. Bonani.—p. 71.
*Operative Treatment of Talipes Cavus. I. Scalone.—p. 83.
*Irreducible Dislocation of Hip Joint. D. Maragliano.—p. 92.
Fracture of Head of Femur. F. Satta.—p. 97.
Osteomyelitis from Colon Bacillus. F. Satta.—p. 103.

Genesis of the Articulations.—This study is based on a monster.

Myxoma in Knee.—The pure primary myxoma in the knee of the man of 30 had developed with a clinical picture deceptively simulating a tuberculous joint and synovia process.

Experimental Lengthening of Limbs.—Nuzzi experimented on living and dead rabbits to determine the limits to which the muscles could be stretched without injury. It seems to be the rule that the soft parts can be stretched to correspond to any artificial lengthening of the skeleton or parts of it. The lengthening is borne better when done gradually, in stages.

Elephantiasis.—Pignatti applied Kondoleon's method in a man of 24, with excellent results, surpassing those, he says, obtainable by any other method. (An illustrated description of this technic was given in THE JOURNAL, May 30, 1914, p. 1720.)

Reconstruction of the Tibia.—Trinci has operated on two more children with an extensive gap in the tibia by sliding the fibula along to partly bridge the gap. In ninety days the fibula in one case had grown to more than twice its former diameter. A strip from the sound tibia was also implanted, and this insured a solid support. The success of the operations was hampered by the preceding chronic osteomyelitic process responsible for the defect in the first place, but the ultimate outcome is satisfactory.

Operative Treatment of Talipes Cavus.—Scalone's illustrations show the wedge which he cut out of the arch of the foot and then replaced, turning the wedge upside down, so that the broad end was in the sole instead of in the dorsum of the foot. He applied this technic to both feet of one young man with bilateral deformity.

Irreducible Luxation of the Hip-Joint.—Maragliano drove a bone-periosteum peg slanting through the femur up into a niche made for it in the ilium. This rendered the hip-joint solid, and the peg increased in size and grew firmly into place, the implant acting like a new neck for the femur. The bone peg was 17 cm. long (about 7 inches) and 1.6 cm. in diameter. One great advantage of this method is that the bone implant is entirely outside the zone of the pathologic joint process, and the latter heals when the irritation from the functional use of the joint stops.

Policlinico, Rome

March 27, 1922, **29,** No. 13

*Tuberculous Abscess in Tongue. D. Taddei.—p. 409.
*Influence of Gestation on Ovarian Cysts. L. C. Carboni.—p. 412.
*Action of Blisters on Lungs. C. Farmachidis and L. Grossi.—p. 416.
The Menace of Bubonic Plague. A. Filippini.—p. 417.

Primary Tuberculous Abscess of the Tongue.—The nodule had been noted for nearly two months when it ulcerated and was removed. A guinea-pig inoculated from the lesion succumbed to tuberculosis. No other manifestations of tuberculosis could be discovered in the woman of 52.

Influence of Gestation on Ovarian Cysts.—In the case described—the young woman at the eighth month of her first pregnancy—the diagnosis had been hydramnios, but she was delivered at term of a normal child. The abdomen continued to enlarge very rapidly and 10 liters of fluid were drawn from the ovarian cyst which was resected as soon as she had recovered from the childbirth.

Action of Cantharidin Blistering on Circulation Below.—Farmachidis and Grossi describe experiments on dogs which demonstrated that the blister had only a slight influence on the circulation in the lung, but the kidneys were found gorged with blood and showing signs of inflammation.

March 1, 1922, **29,** Medical Section No. 3

*Syphilis of the Spleen. A. Furno.—p. 123.
Inherited Syphilis with Separation of Epiphyses and Chondrocalculosis. M. Divella.—p. 143.
Sachs-Georgi and Meinicke Tests. L. Philippson.—p. 155.
Multiple Echinococcosis of the Lungs. B. Masci.—p. 163.

Syphilis of the Spleen.—Turno reports three cases of enlargement of the spleen with anemia in syphilitic women, with fever in two. Treatment of the syphilis was followed by return to normal conditions. In another woman, the syphilitic disease of the spleen had assumed the form of typical Banti's disease in its second phase, and this subsided completely under treatment of the syphilis. Intermittent fever, often preceded by a chill, and the positive Wassermann reaction differentiated it from true Banti's disease, as also the fact that the spleen was not so large as in Banti's disease, while it was more painful. In another woman, the splenomegaly was accompanied with hemolysis but the Wassermann test was negative. Treatment as for syphilis, however, was followed by rapid recuperation of the blood, the number of erythrocytes in fifty days running up from 1,550,000 to 3,800,000, the hemoglobin from 25 to 55 per cent. while the spleen subsided to normal size. This case teaches the necessity of tentative treatment for syphilis in hemolytic processes before considering splenectomy, regardless of the outcome of the Wassermann test. Women seem particularly inclined to syphilitic disease of the spleen, and it is liable to occur at any stage and with inherited syphilis. Enlargement of the spleen with simple anemia is most common, but the anemia may resemble the pernicious type. Specific treatment is usually effectual in all phases of the disease; if not, splenectomy may be required, which gives brilliant and durable results.

Riforma Medica, Naples,

Feb. 27, 1922, **38,** No. 9

*Pathogenesis of Chronic Kidney Disease. U. Parodi.—p. 193.
*Reflex Scoliosis. G. Lionti.—p. 199.
Multiple Nodular Tumors in Skin. G. Spremolla.—p. 202.
Present Status of Operative Treatment of Goiter. De Quervain.—p. 206.

Pathogenesis of Bright's Disease.—Parodi argues that nephritis with edema and high arterial pressure is a glomerular nephritis. The interstitial changes that complete the chronic clinical picture are probably secondary to the glomerular lesions. The course depends on the collateral circulation that may develop with the glomerular changes.

Reflex Scoliosis.—Lionti recalls that among the numerous disturbances for which a movable kidney may be responsible, reflex lumbar scoliosis must not be forgotten. In a case described, in a woman of 27, there had been disturbance from the sagging kidney for twelve years, beginning with sudden pain in the right hypochondrium, and the pain returned at intervals afterward. Slight curvature of the spine toward the painful side followed. After nephropexy by Tricomi's method, all disturbances ceased and the spine straightened.

Archivos Españoles de Pediatría, Madrid

February, 1922, **6,** No. 2

*Hydatid Cysts in the Brain. Luis Morquio.—p. 65.
*Bladder Calculi in Children. I. Sánchez Covisa.—p. 104.

Hydatid Cysts in the Brain.—In Morquio's forty-eight cases of brain tumors in children, 50 per cent. were hydatid cysts. He describes four typical cases to illustrate the variety of clinical pictures that may be induced. Operative measures may give good results with small superficial cysts, but the central ones are generally diagnosed too late for successful removal.

Bladder Calculi in Children.—Sánchez Covisa has operated by the suprapubic route in fifty-three cases of bladder calculi in children under 15. All recovered but two without any complications. The youngest child was only 21 months old. The largest concretion was in a boy of 12, the calculus measuring 2.5 by 3.5 by 5 cm. The two fatalities were in children of 2½ and 3; they died within twenty-four hours, in convulsions. Some endocrine derangement must have rendered them exceptionally susceptible to the anesthetic. Diuresis had continued apparently normal and the wound was in good condition.

Brazil-Medico, Rio de Janeiro

Jan. 28, 1922, **1,** No. 4

D'Herelle's Bacteriophagum. Costa Cruz.—p. 45.
Mosquito Parasite: Caulleryella Maligna. A. Godoy and C. Pinto.—p. 46.
The Radio-Active Waters of Lyndoia. A. Ricardo.—p. 47.

Feb. 4, 1922, **1**, No. 5

Intrasaccular Suture of Humeral Artery with False Aneurysm. O. Ramos.—p. 57.
*The Bregmocardiac Reflex. A. L. Pimenta Bueno.—p. 60.
Toxicity of Chenopodium. Reply. T. de Almeida, Jr.—p. 60.

The Bregmocardiac Reflex.—Pimenta Bueno has found that pressure on the bregmatic fontanel slows the heart action. This was a constant phenomenon in the healthy hospital nurses tested. He points to this as further corroborative testimony for his theory as to variations in the intracranial circulation being a factor in the principal cardiovascular syndromes. His theory was recently summarized in these columns, April 22, p. 1237.

Feb. 11, 1922, **1**, No. 6

*Cultivating Plague Bacilli from the Blood. A. Gavião Gonzaga.—p. 69.
Recent French Literature on Bone and Joint Surgery. F. Masmonteil.—p. 73.

Feb. 18, 1922, **1**, No. 7

Bismuth in Treatment of Syphilis. P. de F. Parreiras Horta and P. Ganns.—p. 81.
Clinical Teaching in England. O. Clark.—p. 83.

Plague Septicemia.—Gavião emphasizes the frequency of plague septicemia, and the necessity for an early diagnosis of the disease. Among 163 cases of plague at the isolation hospital there were six with such a mild course that the correct diagnosis could not have been made without the blood cultures. Three were in children. The septicemia is more frequent, occurs earlier, and the prognosis is not so grave as generally assumed.

Revista Médica del Uruguay, Montevideo

February, 1922, **25**, No. 2

*Criminal Abortion and the Law. M. Becerro de Bengoa.—p. 49.
*Chronic Epidemic Encephalitis. C. Payssé.—p. 94.

Criminal Abortion and the Law.—Becerro de Bengoa compares the legislation in different countries on criminal abortion, and suggests a model law to remedy some of the existing abuses. He insists that the unmarried and the poor should be judged differently from well-to-do married women, when it is a question of induced abortion. Among the authorities he cites is one writer who says that a woman who wishes to interrupt her pregnancy is by that very fact proved to be abnormal, and hence her offspring will be defective. Therefore no obstacle should be placed to prevent the abortion in her case.

Chronic Epidemic Encephalitis.—In Payssé's case the woman of 36 tried recently to commit suicide as she had lost all hope of improvement. The myoclonus, tremor, hemiparesis, contracture, and parkinsonism were of nearly two years' standing. The cerebrospinal fluid contains over 1 gm. of glucose but no albumin or cells.

Deutsche Zeitschrift für Chirurgie, Leipzig

February, 1922, **169**, No. 1-2

*After Amputation of Femur. F. Sauerbruch.—p. 1.
*Surgical Treatment of Dorsal Scoliosis. E. K. Frey.—p. 13.

Amputation of Femur.—Sauerbruch was able to make a stout and serviceable long stump in two cases after high amputation or exarticulation of the femur. He accomplished this by incising the leg on the median line below the knee, cutting the tibia across at the ankle, and turning the whole leg back on the thigh. The condyles and the skin of the popliteal space then formed the distal end of the stump. The gap between the stump of the femur and the lower end of the tibia—now turned back to form its upper end—was bridged with a segment cut from the fibula, in one case. The illustrations show the method and the excellent outcome in the two cases.

Surgical Treatment of Dorsal Scoliosis.—This article issues also from Sauerbruch's service. Experimental scoliosis was induced by tying together several ribs on one side in dogs and guinea-pigs. The scoliosis was more pronounced when the ribs on the other side were severed. In cadavers, likewise, tying ribs together on one side, after section of ribs on the other side, always induced scoliosis. The more elastic the thorax and spine, that is, the younger the subjects, the greater the degree of the scoliosis which resulted, but it was distinct at all ages. The therapeutic conclusion is obvious, namely, that tying the ribs together on the convex side of the scoliosis would have the opposite action, reversing the scoliosis and thus forcing the spine back into the median line. This was successfully applied in one girl of 18, and the immediate benefit confirmed the principle. The intercostal spaces were unusually wide in this case, and by tying the ribs together with stout silk plus wire the spine was stretched out nearly straight, and the correction was maintained by a plaster cast. Two of the wire loops were cast off later, and the correction is not quite so perfect as at first. This operation is adapted for incipient scoliosis but, for advanced cases, the spine would have to be mobilized to correct the convex rotation. Leverage for this is obtained by dividing ribs close to the spine on the concave side and dividing the corresponding ribs on the convex side at a distance from the spine, and then applying a correcting plaster cast with extension of the head. The ribs regenerate so rapidly after this that the correction realized was soon stabilized and apparently permanently in the two men of 16 and 17 treated in this way. The success in these two extreme and old cases of scoliosis confirms the possibility of straightening the spine by leverage from the ribs. The vertebrae and ribs form a very strong arch system, and only by cutting the ribs and exerting great force is it possible to work the spine back into its normal axis. Frey's article is a monograph on scoliosis with a bibliography of 591 titles and a history of the attempts at correction.

Jahrbuch für Kinderheilkunde, Berlin

March, 1922, **97**, No. 5-6

*Jaundice in the New-Born. E. Schiff and E. Faerber.—p. 245.
Congenital Occlusion or Absence of Common Bile Duct. G. v. d. Weth.—p. 259.
*Surgical Treatment of Pylorospasm in Infants. Heile.—p. 285.
Coarse Wheat and Butter-Flour Mixture in Infant Feeding. F. Brunthaler.—p. 311.
Experience with Intubation. M. Hohlfeld.—p. 320.
Utilization of Carbohydrates and Fat in Infants Fed with Butter-Flour Mixture. M. Zielaskowski.—p. 330.
Treatment of Bronchitis and Pneumonia in Infants. Stegemann.—p. 341.

Jaundice in the New-Born.—Schiff and Faerber have found bilirubin constantly in the blood of the new-born. It is probably derived from destruction of erythrocytes, possibly from the maternal blood. This indicates a physiologic preparedness for jaundice, but the jaundice does not develop unless some other still unknown factor intervenes.

Pylorospasm in Infants.—Heile found the anticipated hypertrophy at the pylorus in eighteen of his twenty operative cases. In nineteen the cure was complete in three weeks; the other infant succumbed to preexisting metabolic derangement. The pediatrist takes an unwarranted responsibility, he says, when he postpones the operative treatment which is borne so well, and which gives such almost invariably good results.

Klinische Wochenschrift, Berlin

Jan. 21, 1922, **1**, No. 4

Relations of the Skin to the Whole Organism. B. Bloch.—p. 153.
Pathologic Physiology of Chronic Constipation. Reiss.—p. 156. Conc'n.
Character and Significance of Vitamins. E. Abderhalden.—p. 160.
Surgery of the Suprarenal Glands. H. Peiper.—p. 161.
Effects of Mountain Climate on the Blood and the Exchange of Fluids Between the Blood and the Tissues. F. Laquer.—p. 163.
Different Effects of Tuberculins of Various Origin; Also Injuries from Tuberculin Tests. Neustadt and Stadelmann.—p. 166.
The Lethal Dose of Arsenic. G. Joachimoglu.—p. 169.
The Own Urine Reaction in Infants. A. E. Alder.—p. 170.
Roentgen Therapy of Erythremia. F. Schöning.—p. 172.
Phosphate in Relation to Cellular Respiration. P. György.—p. 172.
Origin of Pigments in the Eye. G. Miescher.—p. 173.
Roentgen Rays and Carbohydrate Metabolism. L. Pincussen.—p. 174.
Echinococcus of Spinal Column and Spinal Cord. H. Boge.—p. 174.
Treatment of Early Syphilis. G. A. Rost.—p. 175. Cont'd.
Diet in Nutritional Disturbances in Infants. Langstein.—p. 176.
Scarlet Fever Problems. K. Kisskalt.—p. 181.
Formation of Ferments in Cells. M. Jacoby.—p. 184.

Medizinische Klinik, Berlin

March 19, 1922, **18**, No. 12

Modern Treatment of Syphilis. E. Finger.—p. 361.
Psychanalysis and Medicine. A. Mäder.—p. 365. Conc'n.
Is Syphilis a Poison for the Reproductive Cells? A. Peiper.—p. 368.
*Testicle Implants. O. Rosenthal.—p. 370.
*Arsenical Polyneuritis. A. Cohn.—p. 371.

*Treatment of Erysipelas with Silver Nitrate. E. Fränkel.—p. 373.
Intravenous Injection of Camphorated Oil. W. Hüper.—p. 373.
Sciatica and Thermotherapy. E. Tobias.—p. 376.
Present Status of Treatment of Chronic Joint Disease. E. Meyer.—p. 378.

Testicle Implants.—Rosenthal protests against testicle implants as the donor is liable to suffer from the loss of the testicle. The one left may be injured later by accident or disease. He cites Moll's experience with a case in which a man consented to a testicle being taken from his minor son; 200 marks were paid for it, but the purchaser sold it to a third party for 500 marks.

Arsenical Polyneuritis.—Cohn reports the case of a physician who had been taking arsenic in treatment of psoriasis and a tendency to rheumatic joint disease. A typical arsenical neuritis developed, with such weakness of the legs that he was confined to bed. The prognosis is generally favorable, but the preexisting joint disturbances in this case render the outlook less promising. The permeability of the kidneys modifies the reaction to arsenic. Any tendency to contracted kidney magnifies the danger from arsenic treatment. The water freshet test in this case showed impairment of kidney functioning. He cites in conclusion some similar cases of arsenical neuritis from therapeutic doses in psoriasis, including another case in a physician.

Silver Nitrate in Treatment of Erysipelas.—Fränkel has applied 16 per cent. silver nitrate with good success in treatment of erysipelas of the face in twenty-five cases. The drawbacks of the solution are avoided by using a 12 or 16 per cent. silver nitrate salve. The entire area has to be smeared with it.

Monatsschrift für Kinderheilkunde, Leipzig

January, 1922, **22**, No. 4

Ovulation in Relation to Menstruation. S. Engel.—p. 545.
Bronchiectasis in Children. Piltz.—p. 551.
Two Cases of Macrogenitosomia Praecox. G. Gabschuss.—p. 574.
Dystrophia Hepatica in Children. Bihlmeyer.—p. 587.
Stasis in Infants. E. Stransky and E. Schiller.—p. 590.
Heart Massage in Cardiac Stasis. A. Japha.—p. 597.
Cutaneous Hemorrhages in Uremia. G. Kaulen.—p. 599.

Münchener medizinische Wochenschrift, Munich

Feb. 24, 1922, **69**, No. 8

The Alleged Dangers of Twilight Sleep. E. Opitz.—p. 261.
Permeability of the Capillary Walls in Man. Gänsslen.—p. 263.
The Syndrome of Dystonia. G. Ewald.—p. 264.
Neo-Silver-Arsphenamin in Neurosyphilis. G. L. Dreyfus.—p. 268.
*New Field for the Talma Operation. E. Rubensohn.—p. 269.
Contagiousness of Condyloma Acuminatum. Lichtenstein.—p. 270.
Note on the Etiology of Cancer Based on Cancer Statistics of Cuba. W. H. Hoffmann (Havana).—p. 271.
Endolumbar Injections of Arsphenamin. L. Fuchs.—p. 271.
Technical Terms of the Modern Theories of Heredity. Siemens.—p. 272.
Therapy of General Paralysis. W. Weygandt.—p. 278.

Talma Operation to Relieve Mechanical Disturbance from a Tumor.—Rubensohn reports a case of grave disturbance from a rapidly growing tumor in the head of the pancreas, compressing completely the portal vein and common bile duct. At the laparotomy, the condition of the apparently moribund man of 35 prevented radical removal of the tumor. Working rapidly, the portal vein and the common bile duct were relieved of compression, and the gallbladder was evacuated. The liver was found to be of normal consistency and size, but interference with the portal circulation was clearly demonstrated. A typical Talma operation was then performed, the greater omentum being sutured to the parietal peritoneum, which was rubbed to develop adhesions. The ascites collected again but was not tapped as the newly created collateral circulation was gradually decreasing the ascites. Two months later, no effusion or icterus or dropsy of the lower extremities could be observed, and six months after the operation the patient had fully recovered, having gained 16 pounds in weight. The nature of the tumor was not diagnosed, but the success of the operation would indicate that it was not malignant. This opens a new field for the Talma operation, to relieve mechanical circulatory disturbances in the portal vein region. The outlook is more promising than when the liver is primarily diseased.

Wiener klinische Wochenschrift, Vienna

Feb. 16, 1922, **35**, No. 7

*High Blood Pressure and Tachycardia. J. Mannaberg.—p. 145.
Bearing of the Plasma Albumin on the Clinical Aspects and Treatment of Kidney Diseases. V. Kollert and W. Starlinger.—p. 146.
Pains in the Spinal Column, Their Anatomical Localization and Their Diagnosis. J. Hass and F. Eisler.—p. 147.
Reticulation in Normal Human Skin. H. Homma.—p. 149.
Glandular Formations in the Vagina. V. Pauliucu-Burla.—p. 150.
Analysis of Cancer Questionnaire. Peller.—p. 153. Cont'd.
Opening of New Histologic Institute. J. Schaffer.—p. 156.
Incidence of Tuberculosis Among Printers. P. Gerber.—p. 158.

High Blood Pressure and Tachycardia.—Mannaberg states that, in a series of 241 patients with high blood pressure, 55 per cent. presented a normal pulse rate; 43 per cent., tachycardia, and 3 per cent., bradycardia. Systolic pressures of 180 mm. of mercury and above were counted as high pressure, and a pulse frequency of 80 and above was considered tachycardia. Of the 103 cases of tachycardia, in 38 the pulse was under 90; in 17 cases the pulse beat exceeded 120, and the highest pulse was 140, with a pressure of 240. Of the 241 patients with high blood pressure, 41 per cent. were men, and 59 per cent. were women. Of the 100 men with high blood pressure, 32 per cent. were tachycardic, while of the 141 women with hypertension, 50 per cent. were tachycardic. Of the 7 patients presenting bradycardia, 5 were men and 2 were women. From this it appears that a much higher percentage of the women than the men were tachycardic, whereas a larger percentage of the men than the women were bradycardic. According to Marey's law, a pulse of high tension is slow, and vice versa. Mannaberg's findings were exactly opposed to this.

Zeitschrift für Urologie, Leipzig

1922, **16**, No. 2

*Appendicitis as Cause for Hematuria. A. v. d. Becke.—p. 50.
*Nephrolithiasis. S. P. Federoff.—p. 56.
The Sklerator: A Celluloid Device for Mechanical Correction of Impotence. E. Schubert and M. Zolotnitzky.—p. 83.
*Cicatricial Changes in Kidney Causing Pain. C. Hammesfahr.—p. 88.
Purpura of the Bladder. P. Denicke.—p. 95.

Appendicitis as Cause for Hematuria.—Becke reports that the kidney seemed to be normal after its removal on account of persisting right hematuria. The pains, tumor and fever continued as before, and the gallbladder was exposed but proved to be normal. The tip of the appendix was found adherent to it, and this was resected and a few more adhesions were broken up, and a complete cure followed at once. He reiterates that right hematuria should always suggest possible appendicitis.

Calculi in the Kidneys.—Federoff reviews a series of 557 operations on kidneys. Calculi were present in 151 of the men and in 90 of the women, bilateral in 14 per cent. In one case he found 35 calculi and in another 69. His experience confirms that nephrolithotomy is one of the most dangerous of operations, as no technic is known that wards off danger. He prefers to remove the kidney rather than cut into it, if a pyelotomy incision and a few small incisions in the parenchyma fail to answer the purpose, and there is suppuration and extensive atrophy of the kidney tissue or several calculi embedded in the parenchyma. He operated in 4 of the 6 cases of anuria from a calculus reflex. One man of 78 died; the anuria was of four days' standing and pronounced somnolency had accompanied the vomiting and singultus. The others recovered.

Painful Cicatricial Changes in the Kidney.—In the three cases described, the pains and colic were cured by detaching the capsule from the parenchyma. The scars had been left by a war wound in the two men. In the woman the disturbances had followed nephropexy.

Zentralblatt für Chirurgie, Leipzig

Jan. 14, 1922, **49**, No. 2

Resection of Perforated Gastric Ulcers. E. Bircher.—p. 42.
Treatment of Tuberculosis of Kidney. J. J. Stutzin.—p. 42.
Operation for Varicocele. F. Franke.—p. 45.
Treatment During Sleep of Contracted Flatfoot. H. v. Salis.—p. 46.
"Longitudinal Resection of Stomach for Ulcer." Neugebauer.—p. 48.

Zentralblatt für Gynäkologie, Leipzig

Jan. 14, 1922, **46**, No. 2

Terminology of Menstrual Irregularities. L. Seitz.—p. 50.
*Syphilitic Gumma of the Ovary. Von Kubinyi and Johan.—p. 57.
Formation of Artificial Vagina. O. Steuding.—p. 61.
Occipito-Sacral Position of the Fetus. O. Fohr.—p. 64.
Etiology of the Low Transverse Position of the Fetus in the First Vertex Presentation. A. Nelius.—p. 68.

Syphilitic Gumma of the Ovary, with Positive Spirochete Finding.—Von Kubinyi and Johan report a case which furnishes absolute proof for the occurrence of syphilis of the ovaries, the existence of which many have been inclined to question. The presence of a syphilitic gumma of the ovary was definitely diagnosed, numerous typical specimens of *Spirochaeta pallida* being found in sections from the gummas. A thorough examination of the patient failed to reveal any further site of infection. The Wassermann reaction was +++. The portal of entry of the syphilis could not be found. The husband of the woman presented no signs of infection, and stated that he had never had an affection of the genital organs. The Wassermann reaction in his case was negative. The writers think that possibly a previous conception that had ended in spontaneous abortion during the third month of pregnancy had resulted from illicit relations with a syphilitic. Through a syphilitic ovum the patient herself may have become infected through *choc en retour*. The result was a latent syphilis, and after a number of years the gumma in the ovary. Another possibility is that long before her marriage the patient had acquired syphilis, the portal of entry being unknown. Localization in the ovary took place and from here genuine ovulogenous syphilis developed, the ovum being the bearer of the virus. Later, expulsion of the diseased ovum (spontaneous abortion) occurred.

Zentralblatt für innere Medizin, Leipzig

Jan. 14, 1922, **43**, No. 2

*Determination of Ammonia Content of Blood Serum. H. Strauss.—p. 25.

Determination of Ammonia Content of Blood Serum.—Strauss recommends the method of Hahn and Kootz for the determination of the ammonia content of blood serum. Examination of twenty-seven subjects by this method showed that the normal values for ammonia lie between 1 and 2 mg. per 100 c.c. of blood serum, with 2.5 mg. as the highest normal limit.

Hygiea, Stockholm

March 31, 1922, **84**, No. 6

Measurement of Arterial Blood Pressure. E. Kylin.—p. 217.
Successful Operation for Prognathism. O. Aleman.—p. 239.

Norsk Magazin for Lægevidenskaben, Christiania

April, 1922, **83**, No. 4

*Deafness in Schoolchildren. F. Leegaard.—p. 225.
*Sclerema Neonatorum. A. Brinchmann.—p. 269.
*Tangential Sclerectomy for Glaucoma. S. Hagen.—p. 275.
*Tonometry. H. G. Gjessing.—p. 280.
Hollaender's Tuberculin Reaction. H. Krohn.—p. 285.
Filtrable Viruses. P. M. Holst.—p. 286.

Deafness in Schoolchildren.—Leegaard has examined the hearing of 7,700 children in Norwegian schools. In over half of the children that proved to be hard of hearing the teachers had never noticed that the hearing was subnormal. Chronic otitis was evident in 25.27 per cent. of the 459 more or less deaf children.

Sclerema Neonatorum.—In Brinchmann's case the young infant presented a tallow-like thickening of the subcutaneous tissue which proved to be fat tissue through which particles of calcium were scattered. He knows of no case of the kind on record. After a month or two the child developed a suppurative skin disease with recurring subcutaneous abscesses. Conditions gradually returned to normal until, at the age of 5 months, no further trace of the sclerema could be found. He has been unable to find any records of such a general dissemination of calcium deposits in the subcutaneous adipose tissue as in this case. The complete return to normal of the skin and subcutaneous tissue in this case, in the course of four months, is a further remarkable feature.

Sclerectomy in Glaucoma.—Hagen reports the application of Holth's tangential sclerectomy in fifty-two cases including forty of simple glaucoma. It is too early to pass judgment on the final outcome, but the impression is favorable.

Tonometry.—Gjessing applied the Schiøtz tonometer to measure the tension of the eye in 567 normal subjects and 526 with cataract.

Ugeskrift for Læger, Copenhagen

March 30, 1922, **84**, No. 13

*Lesions of Nerves in Arms. H. Abrahamsen.—p. 295.
Diagnostic Import of Regulation of Neutrality of Urine. A. Bisgaard.—p. 303.

Lesions of Nerves in the Arms.—Abrahamsen says that cutting wounds were responsible for the injury in thirty-seven of his fifty-two cases of lesions of the nerves in the arm. This is the most frequent cause of paralysis of the arm in adults, an open cut from a knife or piece of glass. Fractures seldom induce paralysis. In children, subcutaneous injuries are more common, and secondary paralysis is frequent. This may be due to the lesser resistance of the youthful nerves or to the extreme dislocation of the fragments which is common, but over-exuberant callus is the most frequent cause of nervous disturbance in children. It is necessary therefore to distinguish between lesions in children and in adults. He emphasizes the importance in all injuries of the arm near the trunk nerves to make a thorough examination before the operation, before conditions are modified by the anesthetic. Too often the injury to the nerve is overlooked until after the incision has been sutured. The end-bulbs have to be resected before the nerve can regenerate. In only nine of the thirty-seven cutting wounds had the nerve been sutured primarily, while in all the others (75 per cent.) the injury of the nerve had not been discovered until local anesthesia, chilliness, cyanosis, advanced atrophy or contracture had called attention to the fact that the nerve had been injured. The functional damage resulting from this oversight of the nerve lesion is often serious for handicraftsmen, as he shows by several examples, the disability compensation amounting finally to 20, 30 or 40 per cent.

April 6, 1922, **84**, No. 14

The Bacteriophagum. P. H. Pock-Steen.—p. 319.
Multiple Calculi in Ureters; Two Cases. K. Wegge.—p. 325.
*Motor Functioning of Stomach in Repose. A. A. Nielsen.—p. 328.
Traumatic Neuroses and Legislation. K. Malling.—p. 332.

Motor Functioning of the Stomach in Repose and During Exercise.—Nielsen found that in 20 persons examined the stomach emptied itself much earlier when they were up and about than when they stayed in bed. The difference was still greater when the subject lay quietly in bed during the entire test. The subjects were all cases of quite recent syphilis, with normal stomachs. In 3 of the 10 men in bed, the stomach took up to five hours to empty, and three and a half hours in the others. When up and about, the interval was only three and a half hours in 9, and four hours in 1 case. The interval was four hours in 3 of the women in bed; three and a half hours in 1, and four and a half hours in 6. When out of bed the interval was three and a half hours in 5 and four and a half hours in 5.

Upsala Läkareförenings Förhandlingar, Upsala

March 15, 1922, **27**, No. 1-2

*Pediatric Clinics in Vienna. A. Wallgren.—p. 1.
*Multiple Cysts in Brain. A. Mörtberg.—p. 23.
Bacilli Carriers of Poliomyelitis. A. Wallgren.—p. 45.
Pirquet's Nutritional Standards. A. Wallgren.—p. 53.
Chemistry of Homogentisic Acid. II and III. C. T. Mörner.—p. 77.
Double Ureters in Embryo. E. Jonsson.—p. 81.
Method for Making and Mounting Sections of Brain. I. Syk.—p. 95.
Gas Bacillus Complications in Typhoid. S. Ekvall.—p. 97.

Pediatrics at Vienna.—This is an account of what most impressed Wallgren in a sojourn at Vienna for study in the children's clinics.

Porosis of the Brain.—Mörtberg applies this term to a case of multiple cysts in the brain of a workman of 35 who had succumbed to cancer of the stomach, and the brain was found studded with cysts, like a Gruyère cheese. Gas-forming bacteria were found in them.